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An Economic Report to the Governor of the State of Tennessee

On the State's Economic Outlook

FEBRUARY 1982

AN ECONOMIC REPORT TO THE GOVERNOR OF THE STATE OF TENNESSEE

On the State's Economic Outlook

Prepared by

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In Cooperation With

THE TENNESSEE STATE PLANNING OFFICE

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FOREWORD

This volume constitutes the 1982 edition of An Economic Report to the Governor of the State of Tennessee, providing a comprehensive and unified assessment of the most probable future economic environment for the U.S. and Tennessee. The forecasts, annually to 1990, represent the collective judgment of the staff at the Center for Business and Economic Research at The University of Tennessee, Knoxville, where the state forecast has been made. The national forecast was prepared by the Wharton Econometric Forecasting Associates (WEFA) in Philadelphia, Pennsylvania. An array of assumptions, particularly at the national level, condition the analysis. These assumptions are contained in Chapter 2, following the Executive Summary, the first section of the Report. Chapter 3 presents a more detailed evaluation of the forecast for major sectors of the Tennessee economy.

The Appendix of this Report contains the complete set of forecast data to 1990 as well as a comparable set of historical data from 1971 through 1980. For users of detailed data, the latest years of historical information contain revisions of preliminary numbers contained in last year's Report.

The state forecast contained here updates the state forecast contained in the Metropolitan Area Economic Report published in September 1981. The primary purpose of these annual companion volumes--Economic Report to the Governor and Metropolitan Area Economic Report, both of which are published, disseminated, and partially financed by the Tennessee State Planning Office--is to provide wide public dissemination of the most current possible economic analysis to planners

and decision makers in the public and private sectors. The Report is the result of professional judgment of CBER economists in interaction with the Tennessee Econometric Model.

Many other people, too numerous to mention specifically, have contributed to the contents of this report. The research staff extends special appreciation to the Executive Director and Director of the Tennessee State Planning Office.

William F. Fox
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TABLE OF CONTENTS

Chapter		Page
	Foreword	iii
1	Executive Review	1
2	State and National Outlook	7
	Recent Tennessee Economic History	7
	Forecast Assumptions	11
	Reaganomics	11
	Inflation	15
	Interest Rates	15
	Short-term Forecast	18
	Long-term Forecast	24
3	Outlook for Specific Industries	29
	Overview	29
	Historical Background	30
	Present Problems and Short-term Forecast	32
	Long-term Forecast	36
	Manufacturing	37
	Historical Background	39
	Short-term Forecast	40
	Long-term Forecast	43
	Trade and Services	44
	Historical Background	44
	Short-term Forecast	47
	Long-term Forecast	49
	Finance, Insurance, and Real Estate	50
	Historical Background	50
	Short-term Forecast	51
	Long-term Forecast	54
	Transportation, Communications, and Public Utilities	57
	Historical Background	58
	Short- and Long-term Forecasts	60
	Construction	62
	Historical Background	62
	Short-term Forecast	63
	Long-term Forecast	66
	Energy	68
	Historical Background	68
	Short-term Forecast	69
	Long-term Forecast	72
	Government	74
	Historical Background	74
	Short-term Forecast	78
	Long-term Forecast	79
Appendix I:	Forecast Data	85
Appendix II:	Historical Data	111

LIST OF TABLES

Table		Page
Chapter 2		
1	Tennessee Selected Indicators	19
2	Tennessee Real Gross State Product and Nonagricultural Jobs Compound Annual Growth Rates	25
Chapter 3		
1	State and Finance, Insurance, and Real Estate Industry Selected Variables, 1981-1983	53
2	State and Finance, Insurance, and Real Estate Industry Selected Variables, 1984-1990, Selected Years	55
3	Historical Rates of Change in Output and Employment--Transportation, Communications, and Public Utilities	59
4	Forecasts of Output and Employment--Transportation, Communications, and Public Utilities	61
5	State and Construction Industry Selected Variables, 1981-1983	65
6	State and Construction Industry Selected Variables, 1984-1990, Selected Years	67
7	Historical Change in State Tax Collections FY 1967 to FY 1981	75
8	Historical Change in State Tax Collections (In Constant Dollars and with Constant Rates and Bases)	77
9	Comparison of the Historical Growth of State Tax Revenue and Forecast Growth (In Current and Constant Dollars)	80

LIST OF FIGURES

Figure		Page
Chapter 2		
1	Percent Change in Employment, United States and Tennessee, November 1979-1981	9
2	1970-1989 Federal Deficits	14
3	U.S. Short-term and Long-term Interest Rates, Monthly, 1976-1981	17
4	Tennessee Unemployment Rates, Actual 1971-1980 and Forecast, 1981-1990	20
5	Growth Rate of Real Gross State Product	23
6	Growth Rate in Nonagricultural Jobs	26
Chapter 3		
1	Number of Jobs by Sector: 1980 Annual Levels Relative to Peak Level of the 1970's	34
2	Tennessee Nonagricultural Job Structure and Job Growth, 1979 and 1990	38
3	Percent Change in Manufacturing Real Output, Employment, and Real Wages, 1982-1985	42
4	Annual Rates of Employment Growth in Sectors Considered Recession-sensitive and Recession-resistant, Tennessee, 1970-1981	45
5	Electricity Consumption by Sector, 1981-1985	71
6	Percent Rate of Change in Price of Energy by Type, 1981-1985	73
7	Historical and Projected State Tax Collections in Current and Constant Dollars and with Tax Bases and Rates Held Constant	82

CHAPTER 1

EXECUTIVE REVIEW

The 1982 Economic Report to the Governor is being presented at a time when Tennessee is in the midst of a serious recession. Although there have been serious declines in nonagricultural employment throughout most sectors of the state's economy, the report calls for an improvement in the economic outlook beginning in the second half of this year. The hallmark of the current downturn is its duration. Having started in the first quarter of 1980, it has persisted until the present quarter after registering only a slight improvement last year.

When calculated on an annual average basis the Tennessee economy has lost 3.3 percent of its nonagricultural wage and salary jobs since 1979. Estimates of these losses come from monthly surveys of employers (jobs survey) conducted by the Department of Employment Security and cover nonagricultural wage and salary employees only. A broader measure of employment, however, indicates that there has been a slight increase in the total number of employed persons since 1979 (from 1,865,000 persons in 1979 to 1,870,000 in 1981). This estimate is adjusted to the Current Population Survey (CPS) which is conducted monthly by the U.S. Bureau of the Census for the U.S. Bureau of Labor Statistics. It includes self-employed workers, unpaid family workers, and domestic workers not covered in the jobs survey.

Although the two surveys give different results for the net change in jobs over the past two years, they agree on one thing -- Tennessee is currently suffering from very high unemployment. The

number of unemployed persons, as estimated in the CPS survey, has grown by 58,300 since 1979, and the jobs survey shows a loss of 58,500 nonagricultural jobs over the same time period.

The reason for an economic downturn of this magnitude arises from its diversity. All sectors of the Tennessee economy, except services and mining, have lost employment. Until nearly the end of 1981, the sectors most affected were the historically recession-free trade and government sectors. High interest rates and a poor national economy have now caused the recession-sensitive construction and manufacturing sectors to experience large job losses. This occurrence, on top of problems in the other sectors, has led to the rapid downturn of the past several months.

Looking ahead, 1982 does not promise to be a year of significant improvement. A weak economy at the national level and cutbacks in federal employment and financial assistance are two important reasons. Employment is forecast to decline, with only services; mining; manufacturing; and finance, insurance, and real estate (FIRE) showing growth. The unemployment rate will stay above 10.0 percent for the first several months and then decline through the year's end. Nonetheless, the year's average is forecast to be nearly 9.0 percent, the highest in Tennessee history. It must be remembered that unemployment rates are always slow to respond to any improvements in the economy because firms first use existing employees more intensively, then later hire new ones or bring back laid-off employees.

Constant dollar gross state product (GSP) is forecast to stay nearly constant for the year $27,017.2 million, growing by only 0.4 percent. The trade; services; FIRE; mining; agriculture; and trans-

portation, communications, and public utilities (TCPU) sectors are expected to grow, but all at levels below their forecast average. Most of these sectors must grow mostly as a result of productivity increases, since their employment trend will be weak.

Though 1982 will be weak as measured by yearly statistics, signs of improvement are expected to begin showing in the second half of the year. The second individual income tax cut (effective July 1, 1982), the corporate tax cuts enacted last year, and greater confidence inspired by some success in controlling inflation will be important reasons.

The upturn in the second half of 1982 is expected to be slow because interest rates will rise. This seems inevitable as the Federal Reserve maintains tight money, while the demand for funds to underwrite a large federal deficit (possibly $100 billion plus) combined with rising consumer and business demands is large. Though the rates should remain under the 1981 peaks as the underlying inflation rate is lower, the rates will continue to limit activity in interest-sensitive industries such as construction and durables manufacturing.

A stronger rebound is forecast for 1983. Nonetheless, interest rates that are historically high will continue to prevent a normal rebound from a recession and spread the rebound into several years. The 3.9 percent growth forecast for GSP in 1983 is well under the 7.3 percent growth rate that was achieved in 1976.

All economic sectors are forecast to show relatively strong growth, both in terms of output and employment. The construction sector, after four very poor years, will have the strongest growth,

with output growing 9.0 percent and employment growing 7.9 percent. Still, construction output will lie well below the 1973 peak.

The upturn will continue into 1984 as the last individual income tax cut occurs at midyear 1983 and interest rates continue to fall. Again, all sectors of the economy are forecast to grow strongly, with construction leading the way.

The 1980's decade is forecast to be a period of moderate growth. From 1983 to 1990, GSP will grow at a compound annual rate of 3.2 percent. This is slower than the 4.0 percent growth rate of the 1970's in Tennessee but exceeds the 2.9 percent growth rate forecast for the national economy between 1983 and 1990.

Slowing in the growth rate arises from three factors. First, demographic changes in the United States mean that there will be fewer new entrants into the labor force. The result will be slower growth in employment in Tennessee. Nonagricultural jobs are forecast to grow at a compound annual rate of 1.7 percent between 1983 and 1990, compared with 2.7 percent in the 1970's. This means that more of the growth in output must come from productivity growth.

Second, the growth rate is reduced because the government sector, which has had above-average growth during the past decade, is forecast to slow considerably. Changes in the political climate, cutbacks in federal aid, and weak revenue growth of Tennessee state government are the primary reasons.

Finally, the manufacturing sector's growth will continue to slow in Tennessee as little growth in manufacturing employment is forecast for the nation. Tennessee will, however, continue to attract an above-average amount of manufacturing employment.

The unemployment rate will continue to fall over the decade as the labor force growth slows and new jobs become available. However, from an historical perspective, the rate will be high over most of the decade. This results from demographic changes that have increased the "full employment, unemployment rate."

The inflation rate is forecast to slow over the decade. Inflation, as measured by the gross national product deflator, is forecast to be 8.0 percent in 1982. It will fall slowly and end the decade at just above 7.0 percent.

After the rise in late 1982, interest rates will fall as the inflation rate falls. Again, the rates will appear high from a historical perspective, as banks' cost of funds have been increased by recent legislation, and inflation will still be significant.

The remainder of the Economic Report to the Governor is composed of three sections. Chapter 2 includes a more intensive analysis of the Tennessee economy and its relationship to the U.S. economy. In Chapter 3, the individual sectors of the Tennessee economy are examined in depth. Finally, the appendix contains the historical and forecast tables drawn from the Tennessee Econometric Model.

CHAPTER 2

STATE AND NATIONAL OUTLOOK

by

William F. Fox

The current forecast reflects a significant shift towards pessimism for the short-term performance of the Tennessee economy, resulting mostly from a large downward adjustment in the national assumptions used in the model. Also, the continued performance of the Tennessee economy at a level below the national economy is reason for pessimism. All economic news is not bad, however, as the inflation picture is now brighter.

This chapter begins with a discussion of recent economic history in Tennessee. The next section describes supply side economics, the policies of the Reagan administration, and other assumptions of the forecast. Remaining sections describe the short-term and long-term economic forecast.

Recent Tennessee Economic History

The past two years have been a period of economic stagnation in Tennessee. Measured by the Current Population Survey (CPS), total employment has grown very little since 1979 (from 1,865,000 in 1979 to 1,870,000 in 1981), and the number of nonagricultural jobs has declined by 58,500. It appears that Tennessee did not fully recover from the 1980 recession before it was hit by the current downturn. Losses recorded in the Department of Employment Security's employers survey are very broadbased, as can be seen in Figure One.

The downturn in Tennessee economic conditions has been much deeper than for the U.S. Over the two-year time period, nonagricultural jobs increased 1.9 percent in the United States as they were declining 3.3 percent in Tennessee (Figure 1). The nonseasonally adjusted unemployment rate for the United States stood at 8.3 percent in the United States during December 1981 and 10.4 percent in Tennessee.[1] The Tennessee number is the highest recorded rate for Tennessee.

Several factors should be noted about the unemployment rate. First, all of the increase cannot be attributed to the economic downturn. The high level results both from a decline in jobs and an increase in the labor force (about 1.5 percent per year over the past two years).[2] Second, the full employment unemployment rate--the unemployment rate that results when the labor force is thought to be operating at full capacity--has been rising over time as a result of large numbers of new entrants to the labor market. Thus, the level of unemployment rates is indicative of a less severe problem than in the past.

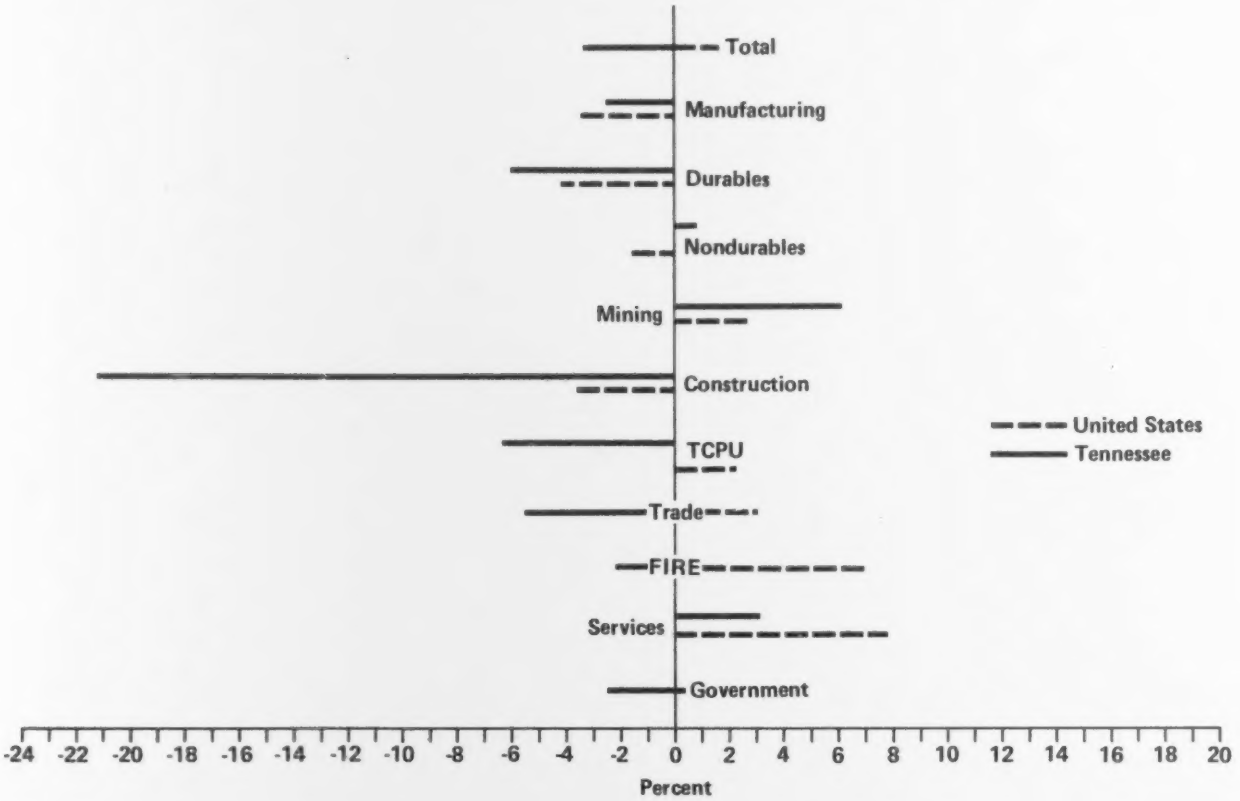
---

1. Care must be used in comparing national and state statistics. Tennessee unemployment rates are always unseasonally adjusted, whereas both seasonally and unseasonally adjusted data are reported for the U.S. The unseasonally adjusted unemployment rates must be used for comparisons.

2. The unemployment rate is calculated using employment data rather than the nonagricultural jobs information noted above. These data series differ because of different coverage, multiple job holding, and state residence.

FIGURE 1

PERCENT CHANGE IN EMPLOYMENT, UNITED STATES AND TENNESSEE, 1979-1981



SOURCE: Tennessee Department of Employment Security and U.S. Department of Labor.

The reasons for the depth of the stagnation arise from analysis of the diversity. Over the past two years only two sectors, services and mining, experienced growth in jobs, with services at a growth rate considerably below the national average (Figure 1). Manufacturing, the sector generally expected to decline in a recession, has lost employment, but at a rate lower than the state's average. Durable industries, particularly transportation equipment; stone, clay, and glass; and lumber and wood products; and the nondurable rubber and plastics industry have suffered the most job losses. It is important to note that the larger downturns in manufacturing just began in the last several months.

Construction jobs losses have exceeded 21 percent and are much worse than the losses around the U.S. The big downturn in construction results mostly from high interest rates but also reflects the poor general condition of the economy and the resulting weakness in construction demand.

The other nonmanufacturing industries are the key to Tennessee's dismal performance in 1979-81. Wholesale and retail trade jobs declined by 5.5 percent. Big losses appear to have occurred in jobs at automobile, building supply, and farm implement dealers. Discouraging effects of high interest rates on durable sales and lagging income growth are two significant reasons for the decline.

The government sector, which has generally been counter-cyclical through previous recessions, has been pro-cyclical in the past two years. Government sector job losses have exceeded 2.5 percent, with

the largest decline occurring in the federal government. Federal job losses are undoubtedly heavily the result of cutbacks in TVA power plant construction and reductions in federal programs that utilize field staffs.

State and local government job losses emanate from constant dollar revenue declines. Elimination or reduction of federal programs that aid subnational governments is an important reason. The other reason is the low elasticity of state government revenues. The long-term income elasticity of revenues in Tennessee is approximately 0.9. But the elasticity varies widely over the business cycles and is particularly low during economic downturns. The own-source revenue elasticity was .51 between fiscal year 1979 and 1981.

Declines in jobs in the transportation, communications, and public utilities (TCPU) and finance, insurance, and real estate (FIRE) sectors also occurred. Transportation declines as a result of downturns in manufacturing are one reason for the difficulty in TCPU. High interest rates, poor construction, and low retail sales explain the problems in FIRE.

FORECAST ASSUMPTIONS

Reaganomics

The main tenets of Reaganomics are adherence to supply side economics and tight money. Supply side economics involves giving incentives to stimulate work effort, savings, and investment in order to give economic agents a greater incentive to produce goods and services. Thus, the president's tax package cuts marginal income

tax rates to encourage workers to labor more and more productively. Saving is encouraged through new regulations concerning individual retirement accounts (IRA) and all savers certificates and through the potential for higher income. Investment is encouraged by faster depreciation write-offs.

Supply side economics can be contrasted with the better-known demand side or Keynesian economics. With Keynesian economics, demand management is used to insure that aggregate demand (the sum of consumers, businesses, and government, and net international purchases) is at the full employment level. The weakness in using demand side stimulation is that the supply side may respond either through output increases or price increases (inflation) and still equal the demand. Output responses, as opposed to inflation, occur only when people and business have the incentives to produce more.

Both demand side and supply side economics can be useful in the proper economic climate, and in many circumstances a mix of policies may be needed. In the current climate of high inflation and low productivity, supply side economics offers the potential to increase the levels of output and seems generally appropriate, but the administration has oversold the potential benefits from supply side economics. The incentives will stimulate increased economic activity but will be insufficient to create major adjustments in the economy. This is particularly true in the short run, since supply side economics must operate through changes in behavior and expectations, which are likely to occur only after a time lag. Thus, the inability of supply side economics to create immediate successes

is to be expected, and rapid responses to the President's program also should not have been anticipated.

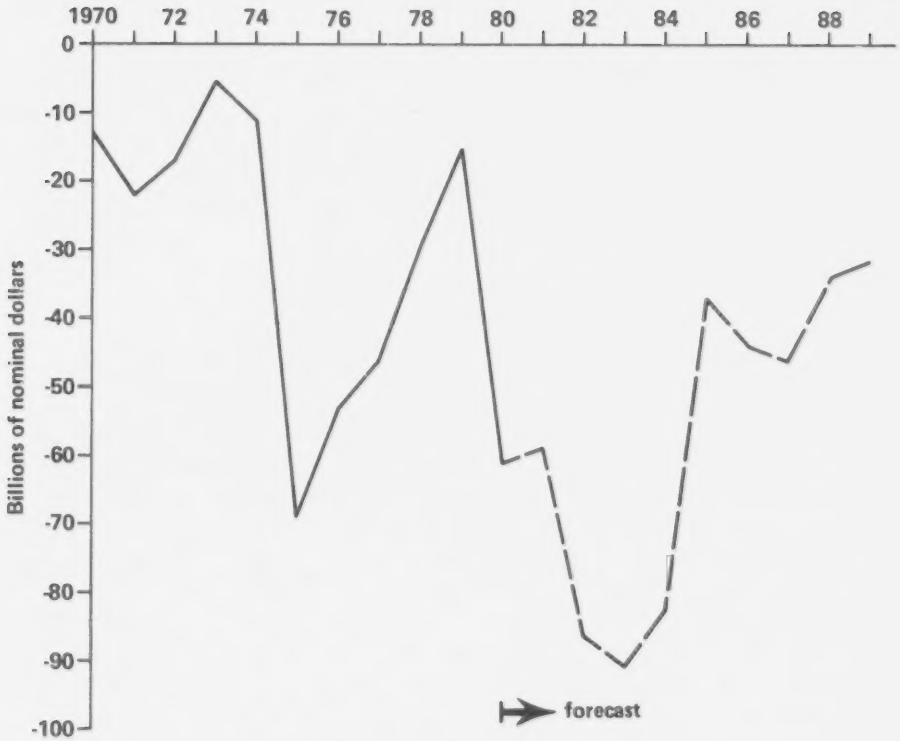
The difficulty with the supply side approach as it has been implemented is that budget cuts of the magnitude necessary to bring the budget closer to balance have not been forthcoming. Balanced budgets are not a magic formula for economic success, but the large deficits are absorbing funds that otherwise could be used for business investment and are one source of high interest rates. The fiscal 1982 federal deficit will likely be in the range of $100 billion (See Figure 2). The forecast is based on the assumption that the Reagan Administration gets $45 billion in unspecified expenditure cuts in 1983 and $54 billion in 1984. Even with these assumptions, which are somewhat difficult to accept, the deficits are around $90 billion for each of those years. If the expenditure cuts are not made, the deficits will be far in excess of $100 billion. Significant reductions in the deficit can be made only if entitlement programs, social security, or defense are dramatically reduced.

Tight money, the second tenet of Reaganomics, is supported by the administration as a mechanism to bring inflation under control. The idea is to avoid monetizing the inflation by providing insufficient dollars to sustain existing levels of inflation. Our assumption is that the Federal Reserve will continue its policy of tight money and will be effective in bringing down the rate of inflation slowly over time.

Some economists have proposed adoption of the gold standard in order to take control of the money supply out of the Federal Reserve's

FIGURE 2

1970-1989 FEDERAL DEFICITS



SOURCE: Wharton Econometric Forecasting Associates, Inc.
Wharton Annual and Industry Forecasting Model, Historical Data
and December 1981 solution.

hands. The Reagan administration appears unlikely to support the gold standard, since this strategy is likely to be counterproductive. One concern is that control of the gold supply is outside the U.S. More importantly, it is difficult to believe that the gold standard would work effectively when other countries around the world were not cooperating.

Inflation

Inflation, as measured by the gross national product deflator, will be 8.7 percent in 1982, compared with 9.2 percent in 1981. Over the remainder of the decade, the inflation rate will fall slowly, with the rate being a little above 7.0 percent at the decade's end. This represents a shift towards optimism in the government's ability to control inflation.

The average inflation rate is forecast to be 8.0 percent annually over the decade, compared with last summer's forecast of an 8.3 percent average. The inflation forecast is based on the assumption that there will be no shocks in energy prices as occurred in 1973-1974 and 1979-1980. Petroleum prices are assumed to grow several percent faster than the GNP deflator. Dramatic price increases are expected in natural gas prices, primarily as a result of deregulation, with the greatest increases expected to occur in 1985-87.

Interest Rates

The forecast for a slow rebound from the current recession is based heavily on the anticipation of higher interest rates later in 1982. This assumption comes on the heels of the 576 basis point (one basis point equals one 100th of a percent) drop in the federal

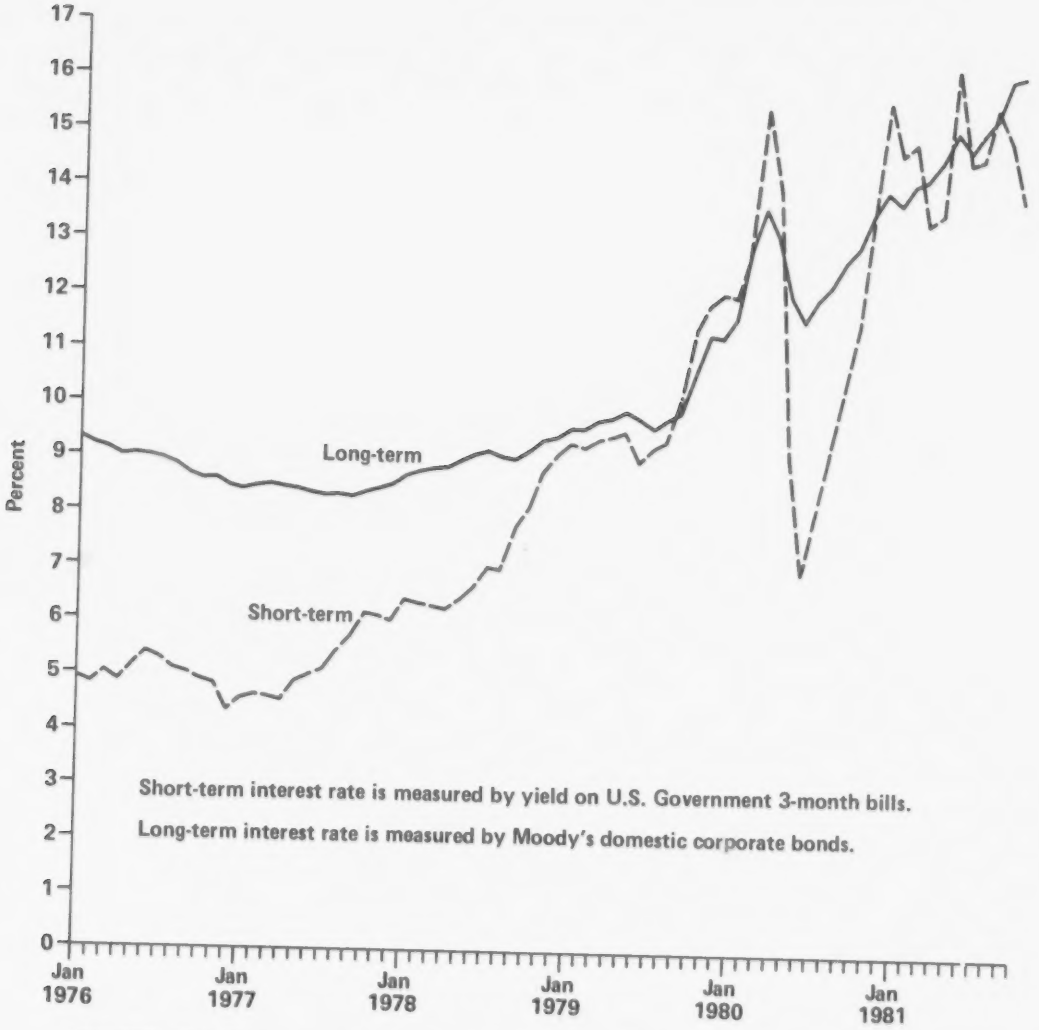
funds rate between August 21 and December 25, 1981 (See Figure 3 for trends in interest rates). This decline was mainly a result of falling demand for funds, with the money supply growing at a 5.7 percent annual rate during the intervening time. The expectation is that interest rates will rise again in the second half of the year as the government borrows to fund the deficit, people increase their demands for borrowed funds after the July 1, 1982 tax cut, and businesses increase their investment goals. Thus, rising interest rates will prohibit a swift rebound from occurring. The level of rates, however, will remain below the 1981 highs because the inflation component of interest rates will be smaller.

Considerations of an election year will bring pressure on the President to seek ways to keep interest rates lower. Some have already suggested that the Federal Reserve should boost the money supply growth rate to keep interest rates from rising, and others are likely to join in the chorus. Such an action may lower short-term rates for a brief period. As the market becomes aware of the money supply increase, however, the anticipation of inflation will cause lenders to demand higher rates. Therefore, no sustained cut in rates can be achieved by the Federal Reserve as long as inflation expectations can offset selected policies. Further, the gains made in reducing the inflation rate will be lost, and the inflation forecast discussed above will be unachievable.

Declining inflation rates will eventually mean falling interest rates. Long-term interest rates should fall to near 10 percent by the decade's end, based on the inflation forecast. Falling interest rates will permit the pent-up demand for housing and automobiles to

FIGURE 3

U.S. SHORT-TERM AND LONG-TERM INTEREST RATES, MONTHLY, 1976-1981



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, January issues, 1977-1981 and November 1981.

be satisfied in the 1983-1985 time period. This will provide a strong stimulus to the state's economy.

Short-term Forecast

The Tennessee economy is forecast to continue in the very stagnant condition during 1982. Real Tennessee gross state product (GSP) is forecast to grow only 0.4 percent during the year, slightly slower than the forecast for gross national product (Table 1). At the end of 1982, constant dollar GSP will still be below the 1979 level. Though the Tennessee Econometric Model does not currently have the capability to forecast quarterly economic activity, a likely set of events would be for the first quarter to exhibit negative growth, the second quarter to show no change, and the latter two quarters to be characterized by slowly increasing growth rates. As noted above, the rebound in the second half will be slow as interest rates rise.

Nonagricultural jobs will experience the third consecutive year of negative growth in 1982.

The unemployment rate is forecast to continue rising and to average 8.9 percent for the year, exceeding the previous high of 8.5 percent recorded in 1981. A comparison of 1971-1980 data and 1981-1990 forecasts is provided in Figure 4. High average will probably result from unemployment rates above 10.0 percent for the first several months, followed by declining rates over the remainder of the year. If rates fail to drop quickly after the first quarter, the average for 1982 will exceed the forecast level and average over 9.0 percent.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

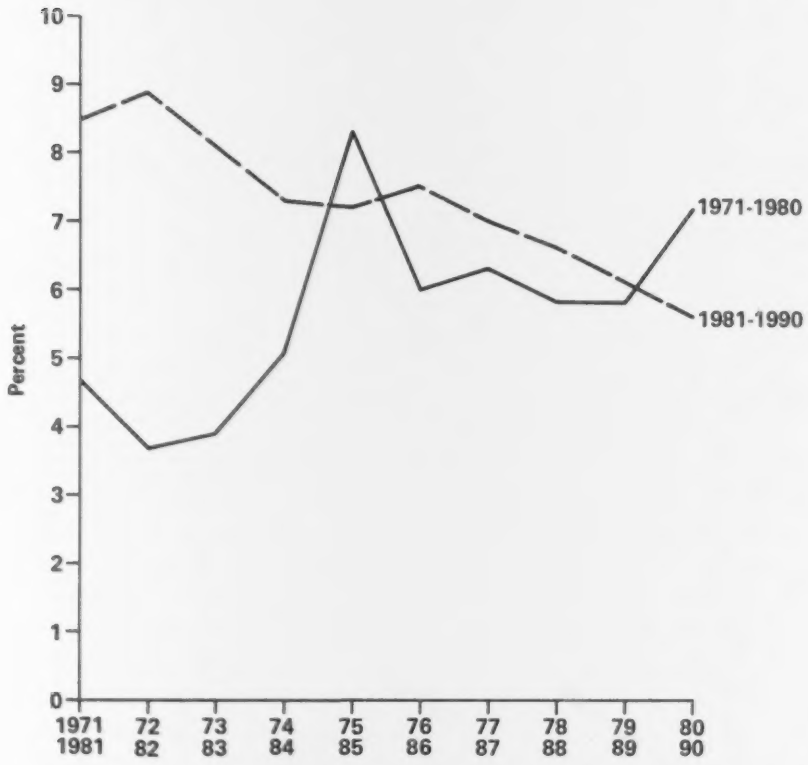
TABLE 1: TENNESSEE SELECTED INDICATORS

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TN GROSS STATE PRODUCT (MIL. DOL.)	50282.	54698.	61377.	68934.	76633.	84050.	92783.	102721.	113826.	126112.
2	PERCENTAGE CHANGE	9.62	8.78	12.21	12.31	11.17	9.68	10.39	10.71	10.81	10.79
3											
4	TN GROSS STATE PRODUCT (MIL 72 $)	26910.5	27017.2	28068.5	29236.7	30184.3	30710.5	31596.3	32636.4	33735.8	34882.0
5	PERCENTAGE CHANGE	0.84	0.40	3.89	4.16	3.24	1.74	2.88	3.29	3.37	3.40
6											
7	US GROSS NATIONAL PRODUCT (BIL 72 $)	1508.7	1516.9	1579.7	1640.2	1690.8	1721.0	1768.3	1823.1	1878.6	1934.1
8	PERCENTAGE CHANGE	1.89	0.54	4.14	3.83	3.08	1.79	2.75	3.10	3.04	2.95
9											
10	TN PERSONAL INCOME (MIL. DOL.)	39361.	43281.	48034.	53353.	59220.	65879.	73212.	81160.	90166.	100207.
11	PERCENTAGE CHANGE	10.80	9.96	10.98	11.07	11.00	11.24	11.13	10.86	11.10	11.14
12											
13	TN PERSONAL INCOME (MIL 72 $)	20289.2	20444.6	21040.1	21698.1	22364.0	22994.4	23808.9	24781.8	25717.7	26743.2
14	PERCENTAGE CHANGE	2.17	0.77	2.91	3.08	3.12	2.82	3.54	4.09	3.78	3.99
15											
16	US PERSONAL INCOME (BIL 72 $)	1238.8	1240.1	1269.7	1300.2	1330.3	1356.2	1395.2	1448.5	1498.5	1540.2
17	PERCENTAGE CHANGE	2.59	0.11	2.39	2.41	2.31	1.95	2.87	3.82	3.45	2.78
18											
19	TN EMPLOYED PERSONS (THOUS)	1870.0	1871.7	1907.7	1946.5	1969.7	1981.2	2011.0	2043.2	2079.8	2118.7
20	PERCENTAGE CHANGE	0.00	0.09	1.92	2.03	1.19	0.58	1.51	1.60	1.79	1.87
21											
22	US EMPLOYED PERSONS (MIL)	100.5	100.9	103.5	105.8	107.4	108.3	110.1	111.8	113.5	115.2
23	PERCENTAGE CHANGE	1.28	0.46	2.51	2.27	1.47	0.88	1.62	1.54	1.51	1.55
24											
25	TN UNEMPLOYMENT RATE	8.5	8.9	8.1	7.3	7.2	7.5	7.0	6.6	6.1	5.6
26											
27	US UNEMPLOYMENT RATE	7.5	8.1	7.7	6.9	6.8	7.0	6.6	6.4	6.1	5.8
28											
29	IMPLICIT DEFLATOR, GSP	186.8	202.5	218.7	235.8	253.9	273.7	293.6	314.7	337.4	361.5
30	PERCENTAGE CHANGE	8.70	8.35	8.01	7.82	7.68	7.80	7.29	7.18	7.20	7.15
31											
32	IMPLICIT DEFLATOR, GNP	193.6	210.5	227.3	245.3	264.8	286.0	308.2	331.0	355.7	382.0
33	PERCENTAGE CHANGE	9.16	8.73	7.98	7.92	7.95	8.01	7.76	7.40	7.46	7.39
34											
35	TN MFG OUTPUT / EMPLOYEE (THOUS 72 $)	19.4	19.4	20.1	20.5	20.9	21.1	21.5	22.0	22.5	23.0
36	PERCENTAGE CHANGE	3.46	-0.11	3.68	2.32	1.86	0.72	2.02	2.44	2.23	2.02
37											
38	US MFG OUTPUT / EMPLOYEE (THOUS 72 $)	17.9	18.1	18.7	19.4	19.9	20.1	20.6	21.4	22.0	22.5
39	PERCENTAGE CHANGE	3.78	1.39	3.36	3.56	2.42	1.08	2.59	3.54	2.80	2.63
40											
41	TN PER CAPITA INCOME ($)	8468.	9187.	10045.	11013.	12099.	13337.	14673.	16117.	17741.	19517.
42	PERCENTAGE CHANGE	9.70	8.49	9.33	9.64	9.85	10.23	10.02	9.84	10.08	10.01
43											
44	TN POPULATION (THOUS.)	4648.	4711.	4782.	4844.	4895.	4940.	4990.	5036.	5082.	5134.
45	PERCENTAGE CHANGE	1.00	1.35	1.51	1.30	1.04	0.92	1.01	0.92	0.92	1.03

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

FIGURE 4

TENNESSEE UNEMPLOYMENT RATES, ACTUAL 1971-1980 AND FORECAST 1981-1990



SOURCE: Tennessee Econometric Model,
Historical Data and January 1982 solution.

The continued rise in the unemployment rate results from growth in the labor force rather than declines in employment (as opposed to nonagricultural jobs). The aggregate number of unemployed persons will reach an all-time high in 1982, though it must be remembered that the labor force will also be at an all-time high.

Personal income is forecast to grow slightly under 10.0 percent in 1982, amounting to less than 1.0 percent in constant dollars (Table 17 in Appendix I). In nominal dollars, income is forecast to increase less than any year since 1975. Very slow wage growth is a significant factor in the 1982 income trend. The wage growth is anemic as labor's ability to seek significant raises from business will be limited in the poor economic climate. Also, labor may begin to make some concessions, as already discussed by leaders in the automobile industry, in order to make U.S. businesses more competitive with foreign business.

Declines in real output are forecast for the durable goods manufacturing, construction, and government sectors (Table 5 in Appendix I). These same sectors, plus trade and transportation, communications, and public utilities (TCPU), are also forecast to experience losses in jobs.

The tax cuts legislated for July 1, 1982, and July 1, 1983, falling inflation (and therefore declining interest rates), and the already legislated business tax cut will be the prime movers in stimulating an upturn in the economy. The upturn will begin slowly in the second half of 1982, but will not be reflected in the annual statistics until 1983. Output in Tennessee is forecast to grow just under 3.9 percent in 1983. This is a strong year, but considerably under the

7.3 percent rebound that followed the 1974-1975 recession. Figure 5 illustrates the duration and rebound surrounding the 1974-1975 recession and the forecast for the 1980-1982 recessions.

The strongest growth will occur in the industries that are most sensitive to recessions and high interest rates. Constant dollar construction is forecast to grow 9.0 percent, but still remain below the 1979 level. Manufacturing will exhibit a strong rebound, with the fastest growing durable goods sectors including lumber and wood products; furniture and fixtures; and stone, clay, and glass, and the fastest growing nondurable goods sectors being apparel, textiles, and rubber and plastics.

Nonagricultural jobs will show positive growth in 1983 for the first time in four years, with the forecast calling for 2.4 percent growth. Nonetheless, there will be almost 20,000 fewer jobs than in 1979. Every sector except government and manufacturing are forecast to experience above-average employment growth (mining is slightly below average). The forecast manufacturing growth rate of 2.1 percent is well above the anticipated long-term trend.

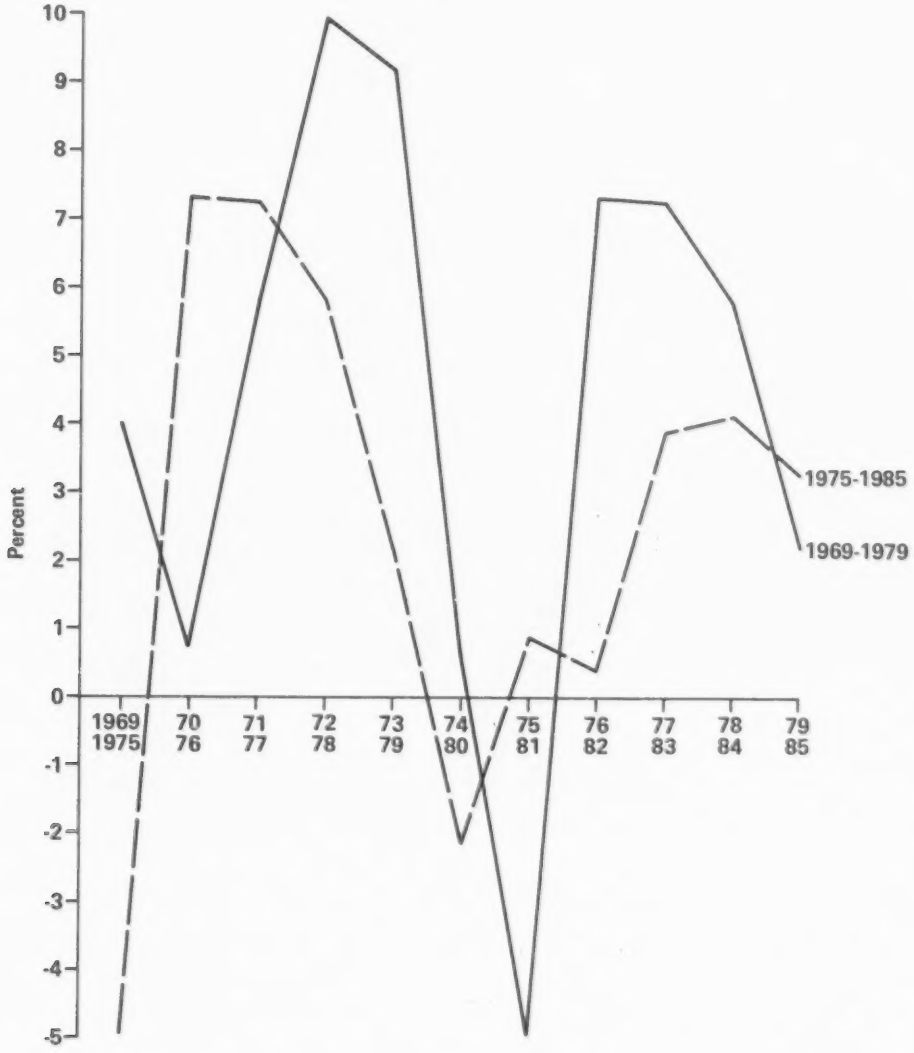
The unemployment rate will fall rapidly through 1983 and average 8.1 percent. The number of persons employed will increase so rapidly that the new entrants to the job market can be absorbed and the number of unemployed cut.

Personal income growth will be nearly 3 percent in real terms. One reason is stronger growth in wages and salaries, though this growth remains weak by historic standards.

Sustained economic growth will continue into 1984 as the impacts of the tax cuts and declining interest rates stimulate further re-

FIGURE 5

GROWTH RATE OF REAL GROSS STATE PRODUCT



SOURCE: Tennessee Econometric Model, Historical Data and January 1982 solution.

bound from the recession. Nearly every economic sector will exhibit rapid growth in output and employment. The unemployment rate will drop dramatically to 7.3 percent as the economy experiences the best growth since 1978.

Long-term Forecast

After 1984, a sound growth trend is generally forecast. A slowdown is reflected in 1986 and 1987 as an inventory adjustment and in recognition of the somewhat regular pattern of business cycles. Overall, the decade is forecast to be characterized by moderate growth.

The economic forecast for the next decade (1981-1990) is for slower growth than in the past decade (Table 2). Part of the reason is the very slow growth trend forecast for 1981 and 1982. The years 1983-1990 are forecast to be closer to that of the past decade. It should also be noted that the U.S. GNP growth rate is expected to slow. Tennessee will continue to outperform the nation in economic growth over the next decade.

The reasons for slower growth in Tennessee are evident from the last four lines in Table 2. The most important reason is the dramatic slowing of jobs growth. Nonagricultural jobs increased 2.76 percent annually over the 1971-1980 decade, and are forecast to grow 1.58 percent in the following decade (Figure 6). This does not result from weaker demand for labor, but instead is a reflection of significant demographic shifts. Lower growth in first entrants to the labor force is one reason, because most of the baby boom children have already entered it. The growth rate of women coming into the labor force is also expected to decline, as the participation

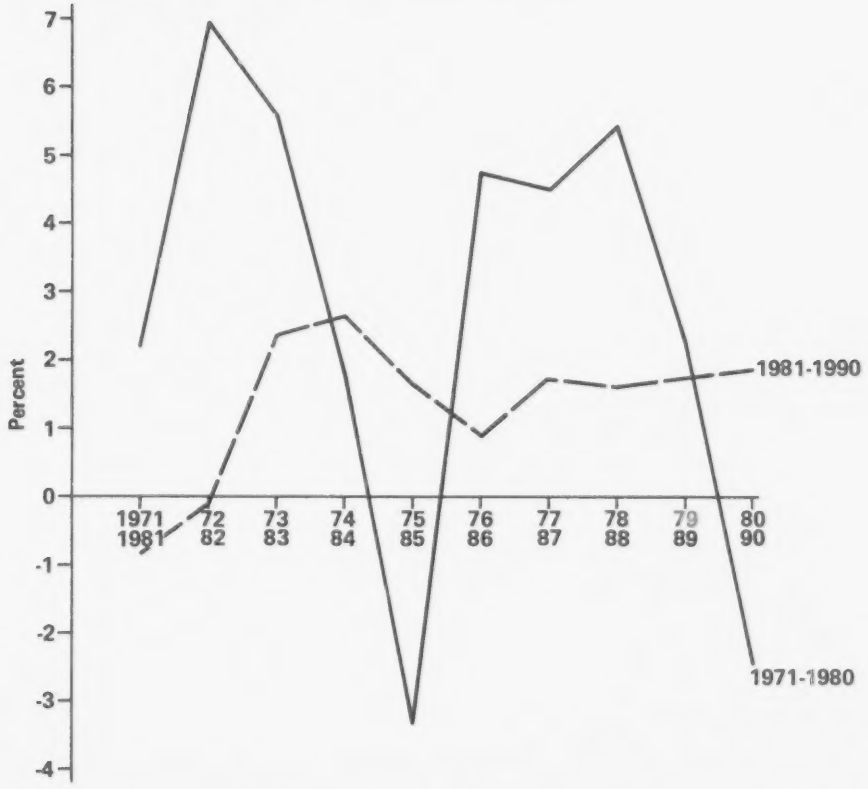
TABLE 2

TENNESSEE REAL GROSS STATE PRODUCT AND
NONAGRICULTURAL JOBS COMPOUND
ANNUAL GROWTH RATES

	1971-1980	1981-1990	1983-1990
Tennessee Gross State Product	3.78	2.92	3.15
United States Gross National Product	3.13	2.80	2.93
Tennessee Private Sector Output	3.74	3.11	3.32
Tennessee Public Sector Output	3.83	1.49	1.79
Tennessee Manufacturing Output	3.87	2.92	2.94
Tennessee Nonagricultural Jobs	2.76	1.58	1.72

SOURCE: Tennessee Econometric Model, Historical Data and January 1982 solution.

FIGURE 6
GROWTH RATE IN NONAGRICULTURAL JOBS



SOURCE: Tennessee Econometric Model, Historical Data and January 1982 solution.

rate now nears 52 percent in the U.S. The lower growth in jobs is more than sufficient to cause the lower growth rate of GSP, meaning that the other component of output growth, productivity, is forecast to do better in the next decade than in the past.

Forecasts for several specific sectors are also important for understanding the anticipated GSP trend. The public sector, including federal, state, and local governments, is the most prominent. Weak revenue growth for Tennessee state and local governments, described above, is one factor, and cuts in federal aid is another notable cause. Finally, lower electricity growth and construction cutbacks will slow TVA growth. Thus, this sector, which grew faster than average over the past decade, will slow dramatically. The coming decade's growth for this sector is forecast at 1.5 percent annually, compared with the 3.8 percent of last decade.

The private sector, on the other hand, is forecast to do much better compared with the past. Manufacturing is an exception, because it is expected to experience a more dramatic slippage and perform as an average industry in Tennessee during the coming decade. The maturing of this industry in the U.S. leads significantly to this forecast. Employment in manufacturing is expected to grow less than 0.3 percent annually in the U.S. during the 1980's. The existing heavy concentration of this sector in Tennessee also makes it difficult to achieve rapid growth. Still, successes in attracting manufacturing firms to Tennessee are expected, and more rapid growth is forecast for the state.

The unemployment rate is forecast to continue declining over the decade (Figure 4), slower growth in the labor force and healthy

employment growth being the sources. The unemployment rate does remain historically high, but this is not surprising in light of the expected mix of young people and women in the labor force.

CHAPTER 3

OUTLOOK FOR SPECIFIC INDUSTRIES

by

Richard Hofler, John Mayo, Patricia Postma, and
Niles Schoening

OVERVIEW

Effects of the slide through which the Tennessee economy has traveled to its present point have permeated every sector. Indeed, the inability to recover from the mild recession in the first part of 1980 has undoubtedly been attributable to the unusual and continuous decline in trade and the low growth rate in services--normally considered "recession-resistant." Nor does the coming year promise a strong turnaround. As the preceding chapter notes, real GSP is forecast to increase less than 0.5 percent during 1982, while employment increases less than 0.1 percent.

There are unusual numbers of recent changes in policy, in institutional arrangements, and possibly in underlying economic relationships, which, though exogenous to Tennessee's economy, affect its various sectors in important ways. In addition, the present economic difficulties have bared fundamental fiscal problems for Tennessee's state and local governments which will not be easily resolved. The total effect of these circumstances is to make the present recession more severe than any in the postwar period--in every sector--and the recovery slower. Furthermore, the effects of the present changes are far from working themselves out. In such

an environment, long-term econometric forecasting requires more than the usual amount of perspicacity.

The following sections on Tennessee's economic sectors discuss their economic performance in the recent past, at present, and projected performances. Perhaps more important, in each case we have attempted to identify the factors which contribute such an unusual degree of uncertainty to the present situation. The remainder of this overview reviews the trends of the recent past and briefly highlights the uncertainties and the forecasts for the various sectors.

Historical Background

Tennessee has been and continues to be an important manufacturing economy. To a significant extent, early economic strengths are inevitably perpetuated as long-lived capital stock is put into place and relevant labor skills are diffused across the labor force and then down succeeding generations. Thus, the textile and apparel industries, which made their appearance in Tennessee in the nineteenth century, together provided more than 96,000 jobs in the state in 1981. But Tennessee has also responded to the economic shifts that have taken place nationally. The same middle Tennessee company that made wooden spokes in the nineteenth century now makes residential construction components. In response to recent pressures in the energy sector, East Tennessee hosts a growing young firm which provides engineering services and designs and produces sophisticated monitoring equipment for electric utilities across the nation. Several of Tennessee's apparel firms no longer cut their jeans with traditional methods but with advanced laser technology.

One of the most distinct long-term changes, however, both nationally and in the state, has been the growth of the nonmanufacturing sectors of the economy. As real incomes have increased, growth has been stimulated in such income-elastic sectors as business and personal services, financial markets, consumer goods, and, not least, the public sector. These sectors have not only provided long-term sources of growth over the past few decades, they have proved to be resistant to cyclical downswings. In the past, Tennessee has had a smaller proportion of its economic activity in these nonmanufacturing sectors than has the United States as a whole. Relatively faster rates of growth in these state sectors have lessened the disparity. For example, in 1970, 59.6 percent of Tennessee nonagricultural jobs were accounted for by the government; finance, insurance, and real estate (FIRE); transportation, communications, and public utilities (TCPU); trade; and services sectors, compared to 66.7 percent in the U.S. By 1979 the Tennessee and U.S. proportions were 64.9 and 70.5, respectively. By 1990, Tennessee's proportion is forecast to be 66.4 percent, and the U.S., 79.2.

During the past decade, this shift toward nonmanufacturing employment has not occurred at a steady pace, both because of the severe recession in 1974 and 1975, and because of sectoral characteristics, particularly in the government sector. The strength of growth in these sectors is underscored, however, by the fact that they continued to add jobs even during 1975. Figure 4 (page 46), in the discussion of trade and services, contrasts job growth in those two sectors during the 1970's with the much more volatile pattern of manufacturing and construction.

During the 1970's, state and local government expenditures increased by 180 percent while employment increased by 30 percent. The public sector growth was likewise uneven, but not because of economic cycles per se. As Table 8 (page 77) in the discussion on government shows, tax collections grew by large amounts as a result of increases in the tax rate in 1968, 1972, and 1977. This expansion in tax collections allowed the expansion in expenditures and employment. Adjusting for inflation and increases in rates, real growth in tax collections between 1967 and 1981 would have amounted to only 11.8 percent. Between 1979 and 1981 the real value of state tax collections declined by 8 percent.

Present Problems and Short-term Forecast

As noted above, the trade sector has experienced uncharacteristic declines through 1980 and 1981, and growth in services has slowed to an unusual extent. Federal, state, and local fiscal constraints, added to the large layoffs caused by cutbacks in the TVA's nuclear construction program, caused a loss of 8,700 jobs in the government sector between 1980 and 1981. Transportation, communications, and public utilities showed employment declines of 2.0 percent and 4.5 percent in 1980 and 1981, while nominal output showed the smallest increase of the past ten years between 1980 and 1981. Finance, insurance, and real estate experienced a decline in real output in 1981, and employment declined by more than 2.5 percent, or 2,000 jobs. Like the other sectors, FIRE has experienced sharper declines in the present recession than during 1974 and 1975. Added to these unusual declines in sectors considered "recession-resistant" are

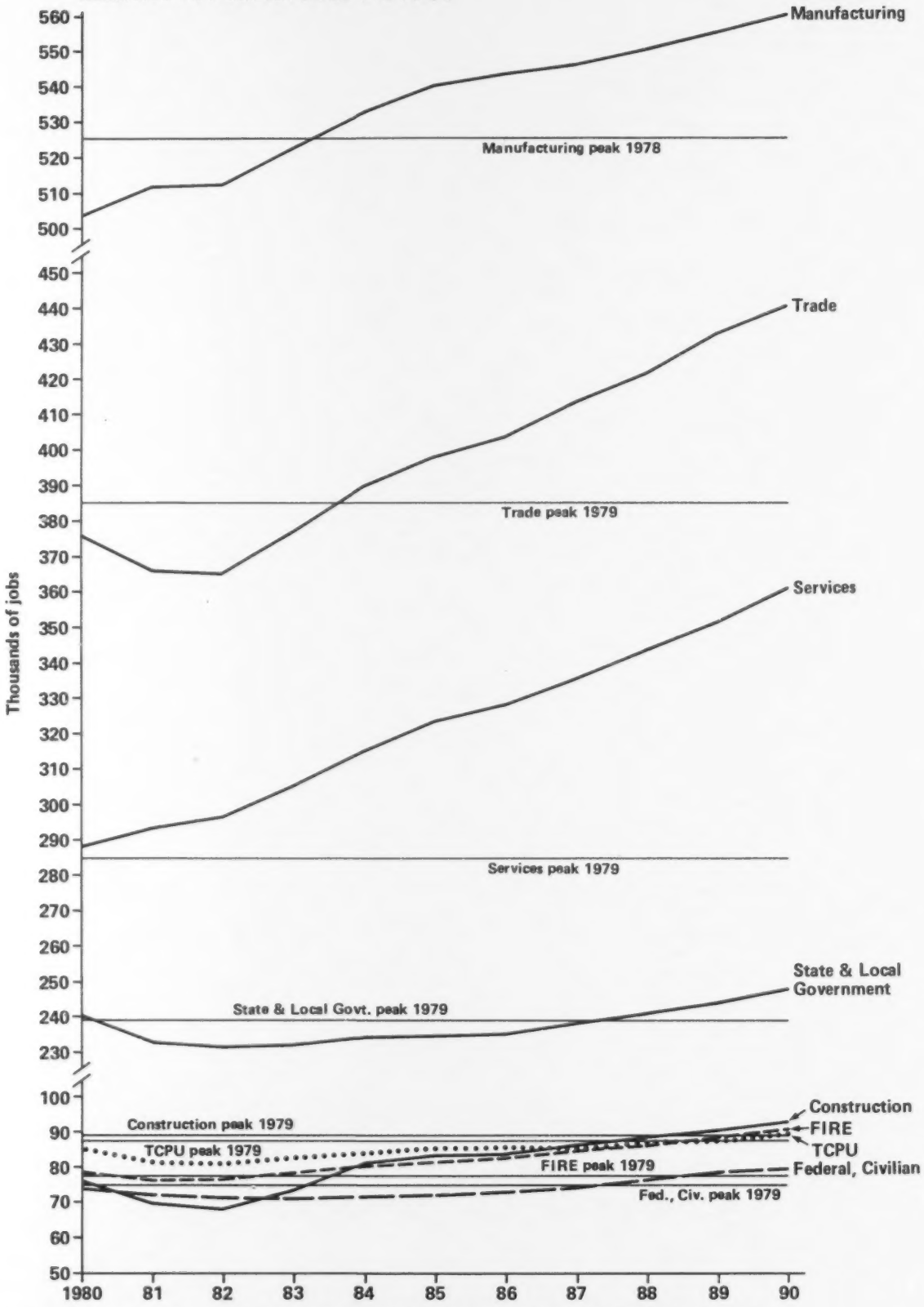
the drastic downturns in the traditionally volatile sector, construction. Employment in the construction industry dropped 13.9 percent in 1980 and another 8.6 percent in 1981. Manufacturing experienced a small decline in 1979 and nearly 4 percent decline in 1980, but managed to add jobs in 1981. Together these two sectors have sustained a loss of 31,000 jobs since 1978. 1982 will bring only slight improvements, since the national and state economies are not expected to turn up until the second half of the year. Manufacturing, mining, services, and FIRE are expected to post modest gains in employment by year's end, while trade, services, FIRE, TCPU, mining, and agriculture post modest gains in real gross product. Both trade and services will be stimulated by heavy demands from World's Fair business in the eastern half of the state.

By 1983, growth is expected to be strong in all sectors, both in terms of output and employment. The construction sector, after four very poor years, will see real output increases around 9.0 percent and employment increases of 7.0 to 8.0 percent. Peak years of growth for most sectors during this expansion occur in 1984, though the expected downswing in 1985 and 1986 is mild, and unlike most downswings, it leaves nearly every sector with modest gains.

Despite the healthy growth through 1985, nonagricultural employment lost in the current recession will not be rapidly recovered. Though down-turns from 5 to 7 years apart appear to be a normal feature of business activity, the depth of the current declines, as well as the confluence of several economic changes, means that regaining the lost ground in some sectors will take most of the coming decade. Figure 1 shows the number of jobs in each sector annually through

FIGURE 1

NUMBER OF JOBS BY SECTOR: 1980 ANNUAL LEVELS
RELATIVE TO PEAK LEVEL OF THE 1970's



SOURCE: Tennessee Econometric Model, Historical Data and January 1982 solution.

the 1980's, relative to peak levels in the 1970's. By 1984, total nonagricultural jobs will surpass the 1979 peak, but construction and TCPU do not surpass 1979 peaks until 1989.

What are the uncertainties in the present period that make the rate of recovery slow and forecasting more difficult? Many have to do with the President's economic policies. Deregulation of airlines, trucking, and railroads, and those pending in communications, will continue to alter the structure of these industries. Air transportation has already been cut in many Tennessee markets, while some new, small lines have entered the market. The recent court decision with respect to AT&T will certainly alter prices in the short run and possibly encourage competition in local markets in the long run. Budget deficits, inflation, and the Federal Reserve Board monetary policy have kept interest rates high and mortgages out of reach for many, and it has also affected the purchase of durable goods. Ironically, though inflation is decreasing, an upturn in the economy in 1983, coupled with intractable budget deficits, may prevent interest rates from dropping to the low levels of the 1970's.

Financial institutions may undergo substantial changes in the 1980's as the effect of deregulation on commercial banks, savings and loans, and credit unions continue to work themselves out, and as innovative packages of investment instruments with high liquidity are devised by all participants. Rapid change in electronic transfer of funds is another force which may restructure financial markets over the next decade.

Upheavals in the international energy market in the early 1970's have apparently permanently altered the relationship between energy

consumption and economic growth. In Tennessee, one consequence of that change has been the deferral of planned nuclear plants in 1979 and 1981 and the layoff of several thousand construction workers in 1981. At present, the deferral of three other plants is under consideration, and there will be a further employment impact if they are, in fact, deferred.

Clearly, one serious state problem is the fiscal squeeze on state and local governments. Part of the rationale behind the administration's cuts in federal funds to states was that state and local governments could make program decisions themselves, and based on own-source revenues and expected expansion in the economy, maintain public services. As the section on government emphasizes, despite healthy growth in the state's economy in the 1970's, real own-source revenues in Tennessee have not grown significantly except when tax increases have been enacted. Tennessee's present tax structure, based on consumption taxes, motor vehicle fees, and the corporate excise tax, is inelastic--that is, tax collections increase much less than total personal income in the state as the economy expands.

Long-term Forecast

Despite the present uncertainties, CBER forecasters are optimistic about the decade of the 1980's. Tennessee's basic economic strengths will continue to be an advantage for carrying out many kinds of activities. There is sufficient diversity in the state economy to maintain overall momentum, even if some of the uncertainties noted above prove to have negative effects. In every sector, employment and income should increase steadily, though at a slow pace around 1986.

As Figure 2 indicates, the trade and services sectors, after the cutbacks in the current recession, should respond to the decade's income and population growth and continue their long-term trend toward a larger portion of the state's gross product and employment. Employment in both sectors will grow between 2.0 to 3.0 percent per year in the last half of the decade, well above most other sectors. Figure 2 emphasizes the increased share of the state's economy in these sectors by 1990. FIRE, after a downturn in 1985 and 1986, makes a strong rebound by 1987 in both employment and output. Above-average job growth in this sector is sustained throughout the last half of the decade. The construction sector, following a small decline in 1986, grows at annual rates of nearly 3.0 percent, although as noted, employment does not reach 1979 levels until 1989.

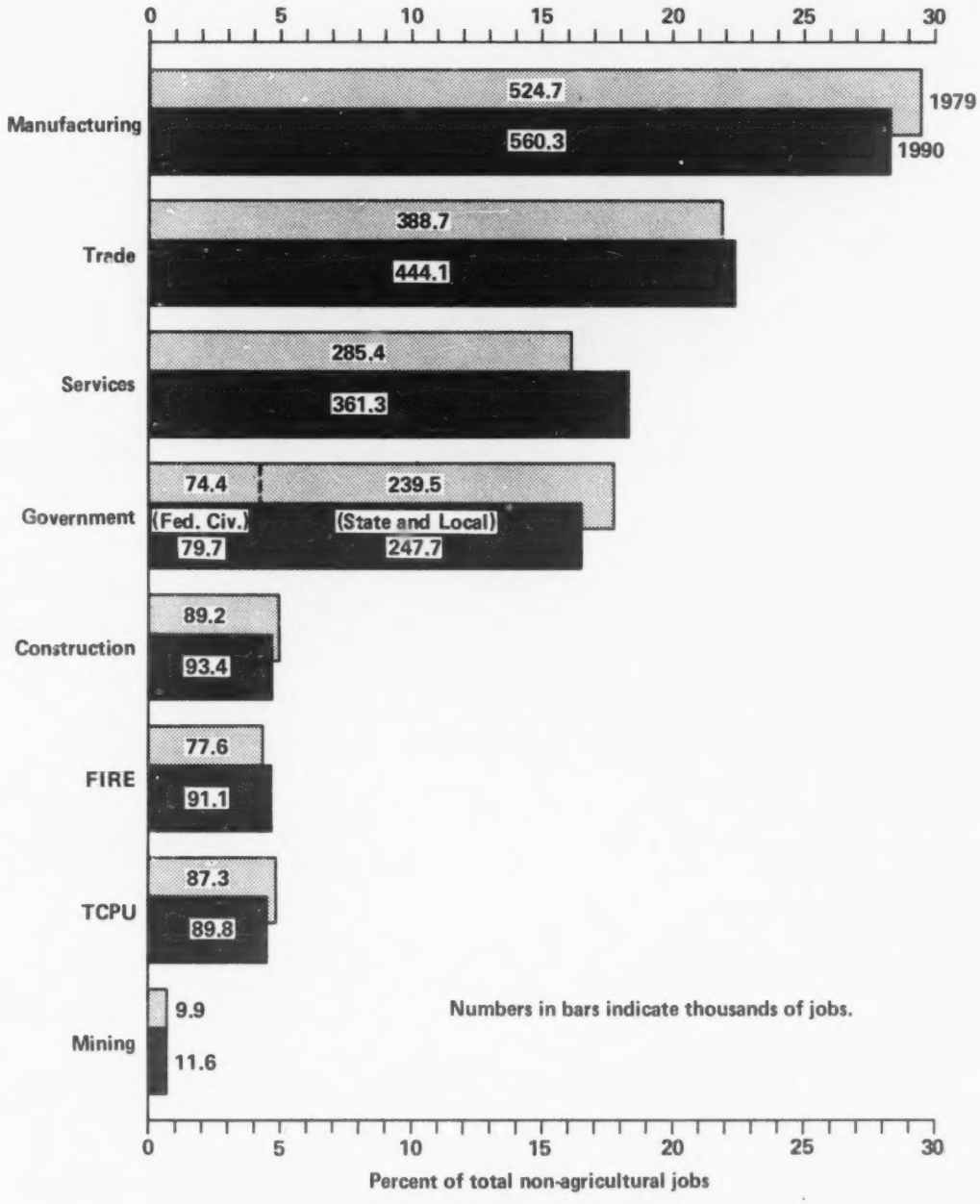
Sectors with slower overall growth rates over the long term include TCPU, government, and manufacturing. Though manufacturing is expected to gain large numbers of jobs each year of the forecast, growth rates appear low due to the large manufacturing base. This forecast is based on the assumption that there will be no legislative changes in taxes; thus, the forecast for growth in the government sector is constrained by the expected decline in real revenues under the present structure.

MANUFACTURING

In the manufacturing sector, Tennessee's comparative advantages have traditionally included low-cost labor, relatively inexpensive energy, plentiful natural resources, and above-average productivity. To the extent that these principal economic factors remain part of

FIGURE 2

TENNESSEE NONAGRICULTURAL JOB STRUCTURE AND JOB GROWTH, 1979 AND 1990



SOURCE: Tennessee Econometric Model, Historical data and January 1982 solution.

the economy, the long-run economic outlook for Tennessee is bright. However, in both the short and the long run, the Tennessee economy is, and will continue to be, sensitive to movements in the national economy and to changes in national economic policy--particularly the state's manufacturing sector. Within manufacturing, durable goods are typically more sensitive to these national factors than are nondurable goods. This is because the purchase of durable goods, such as automobiles and housing, may be more easily deferred in an economic downturn than can be the purchase of nondurable goods such as food and clothing.

Historical Background

Because of this sensitivity of output, employment, and wages in the manufacturing sector to national economic variables, it is worth briefly reviewing the current national economic policy. This will provide a backdrop against which both the short-run and long-run economic forecasts for the manufacturing sector can be made.

Within the last two years major changes have occurred in both fiscal and monetary policy, causing interest rates to become much more volatile than they have been in the past. Prior to 1979, the Federal Reserve Board of Governors (Fed) had sought to achieve a target interest rate through its control over the monetary supply. However, in 1979 in a philosophical overhaul, it was decided that the Fed would henceforth target a specific growth rate in the monetary supply, rather than in interest rates. Subsequently, slow monetary growth has lead to historically unprecedented interest rates. As a partial result of this "tight money" policy by the Fed, the

demand for durables, and to a lesser extent nondurables, was soft in the latter part of 1981.

Additionally, several changes were made in national fiscal policy during 1981, which will have both short- and long-run consequences for the Tennessee economy and for manufacturing in Tennessee. The major economic change was the passage of the 1981 National Economic Recovery Act. This Act reduced personal income tax rates and provided incentives for increased business investment. To accompany the tax cut, federal budgetary expenditures have been cut. Despite these tax cuts, the federal deficit is projected to be approximately $100 billion for the 1982 fiscal year and to grow in future years.

Short-term Forecast

Both indigenous economic factors and the national economic environment will influence the economic outlook for the manufacturing sector in Tennessee. The short-run forecast, through 1985, may conveniently be subdivided into forecasts for 1982 and 1983-1985.

Prudently stated, 1982 is not expected to be a banner year for output, employment, and wages in Tennessee manufacturing. Total Tennessee manufacturing output is expected to stagnate, falling by 0.04 percent. Within the manufacturing sector, the output of durable goods should be affected most severely in 1982, falling 0.81 percent. Nondurable goods, however, should register positive but mild growth, 0.52 percent. The downturn in durable goods output will be led by (greater than one percentage point) reductions in the nonelectrical machinery, electrical machinery, and fabricated metals industries. Significant contributors to the mild output growth in nondurable

goods in 1982 will be the apparel, textiles, and food industries. These industries are forecast to register output growth in excess of 1.5 percent.

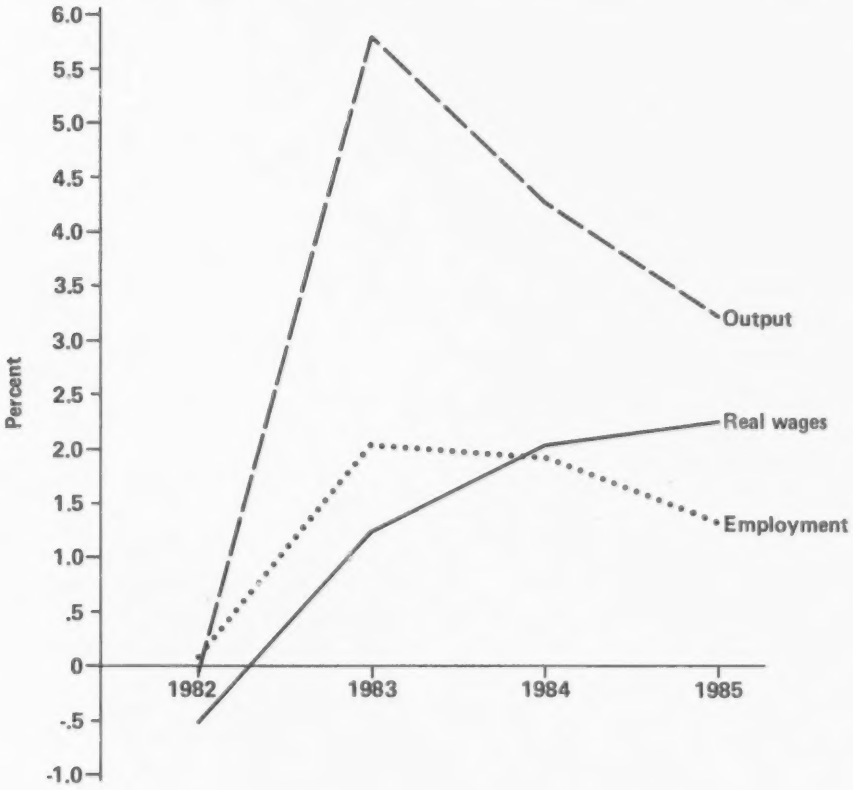
Employment growth in Tennessee manufacturing for 1982 will mirror output growth. Total manufacturing employment will grow in 1982 from 512.5 thousand to 512.9 thousand workers, an increase of 0.08 percent. Sluggish manufacturing employment growth for 1982 is due primarily to the poor employment outlook in durable goods: fabricated metals, furniture and fixtures, and transportation equipment. The brighter side of the 1982 manufacturing employment picture comes from the nondurables industries, where all sectors except chemicals and apparel are expected to register employment growth.

Manufacturing wages will increase in 1982 from an average of $15,142 to $16,438. This represents a nominal gain of 8.56 percent. However, after taking account of inflation, real manufacturing wages are expected to fall slightly in 1982. Unlike manufacturing output and employment, the 1982 outlook for wages is better on average in the durables than nondurables industries. While real wages are expected to fall an average of 0.19 percent in durables industries in 1982, the average real wage decrease in nondurable goods industries will be 0.76 percent.

The manufacturing output, employment, and wage outlook for the 1983-1985 period is expected to be significantly brighter than for 1982. Manufacturing output, employment, and wages are forecast to rebound significantly from the 1982 downturn. This can be seen in Figure 3.

FIGURE 3

PERCENT CHANGE IN MANUFACTURING REAL OUTPUT, EMPLOYMENT, AND REAL WAGES, 1982-1985



SOURCE: Tennessee Econometric Model, January 1982 solution.

Manufacturing output growth in the 1983-1985 period will be led by rapid growth in the transportation equipment and lumber and wood products industries. The growth in transportation equipment output will be aided by the opening of a large Nissan truck plant in late 1983. Employment growth in the transportation equipment sector will lead the anticipated employment growth in Tennessee manufacturing during the 1983-1985 period. Wage gains in manufacturing during the 1983-1985 period should be sufficient to result in real wage increases. For this period, real wage gains are forecast to peak at 2.23 percent in 1985.

Long-term Forecast

Manufacturing output, employment, and wages are all forecast to grow at moderate rates for the 1986-1990 period. Underlying this positive long-run outlook for manufacturing in Tennessee are several factors. Principal among these are higher-than-average productivity, above-average population growth, and adequate supplies of relatively low-cost factors of production.

As the length of forecast is extended, more uncertainty is introduced regarding the stability of the economic and political assumptions which drive the Tennessee Econometric Model. Thus, the weakness of this, and every, long-run forecast is that it will not typically pick up changes in economic variables due to policy changes which have not yet occurred. However, the strength of long-run forecasts, such as this one generated by the Tennessee Econometric Model, is that forecast values will tend to approach values reflective of their underlying strengths or weaknesses, independent of the vicissitudes of short-run economic policy.

Manufacturing will continue to be a strength in the Tennessee economy, as Figure 2 in this chapter shows.

TRADE AND SERVICES

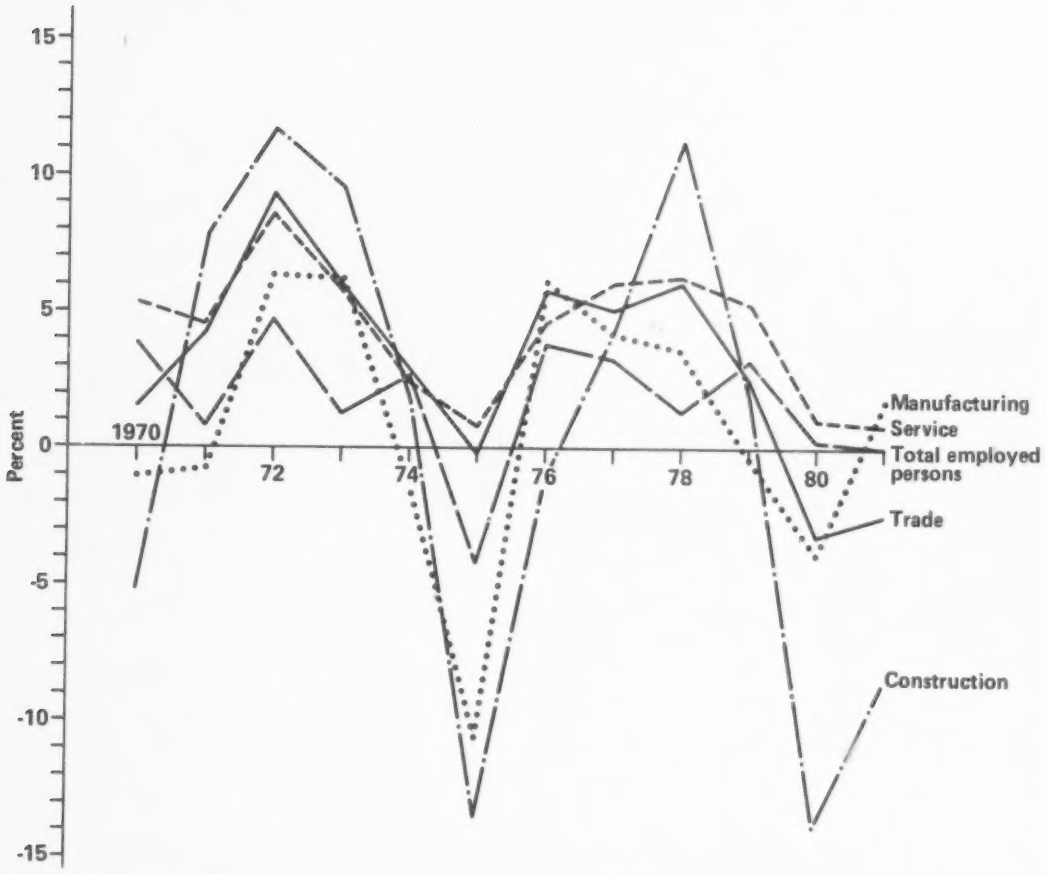
Historical Background

The long-term trend of increasing employment shares in the nation's wholesale and retail trade sector--and especially in the service sector--has frequently been noted. Growth in both sectors is related to population growth, to the long-term rise in real personal income, and most recently to demographic changes. In Tennessee, as in the nation, the marked trend toward smaller but more numerous households has been an important stimulus to businesses in the trade and services sectors. The increasing number of two-worker households also means families have more need of, and the means to afford, consumer goods and services. Over the past decade, employment growth in both trade and services has exceeded that of every other sector except federal government. In 1970, these two sectors together accounted for 33.3 percent of nonagricultural jobs (trade, 19.4 percent; services, 13.9 percent). By 1981 their joint share had reached 38.5 percent (trade, 21.4 percent; services, 17.1 percent), and they are the state's second and third largest employment sectors.

Traditionally these two sectors, both nationally and in Tennessee, have been considered "recession-resistant." Although their growth rates since 1970 have followed the same roller coaster pattern as other sectors, the services sector has managed to increase employment levels every year during the 1970's (Figure 4). In contrast to the sharp employment declines in some other sectors in 1975,

FIGURE 4

ANNUAL RATES OF EMPLOYMENT GROWTH IN SECTORS CONSIDERED RECESSION-SENSITIVE AND RECESSION-RESISTANT, TENNESSEE, 1970-1981



SOURCE: Tennessee Econometric Model, Historical Data and January 1982 solution.

trade experienced less than a 1 percent decline. Along with the government sector, therefore, these two sectors have been regarded as stabilizing components of the state economic structure.

A sharply different picture has emerged in the most recent period. Beginning in 1979, annual average growth rates for employment in trade turned down and then became negative. During 1980, growth rates in trade sector employment were lower than at any time during the past decade, including 1975, and by 1981, levels of employment in trade had declined to pre-1978 levels. The most severely affected components have been autos and auto parts, farm implements, and building supplies.

The drop in growth rates for services employment was delayed until 1980, but the decline was sharp, dropping to the nearly same low but positive rate of growth experienced during the 1975 recession year. Unlike trade, the level of services employment has not declined, but the poor performance of both trade and services in Tennessee during the current recession is underscored by comparison with trade and services employment nationally. Between 1979 and 1981, services employment in the United States increased by 8.0 percent; for the same period, services employment in Tennessee increased by 3.0 percent. Over that two-year period, United States trade employment increased 3.0 percent; in Tennessee, trade employment decreased by 5.5 percent.

This stubborn decline in growth rates is puzzling, and we can only speculate as to its causes. From the supply side, the persistently high interest rates of the past three years imposed large inventory costs, particularly for big ticket items such as autos and farm implements. From the demand side, the generally sluggish econ-

omy and high interest rates have led consumers to delay purchases of autos and other consumer durables. For the small, proprietor-operated businesses that predominate in trade and services, the initial response to decreasing profit margins will be to cut back on employee hours and rely more on proprietor or family labor. Observers cite an increased number of bankruptcies as evidence of the recent pressures on small business. Undoubtedly, these factors are important in explaining the low levels of trade employment and trade and services growth in the state, but these factors are also characteristic, though possibly to a lesser extent, of the nation as a whole. One state-specific explanation may be that the healthy growth we have noted during the past decade included excess capacity. Trade and services may have responded to the growth in population and new households too quickly. Aside from this possibility, Tennessee's relatively worse performance remains a puzzling question.

Short-term Forecast

The effect of this unusual softness in trade and services, coupled with the decline in the government sector and the volatility of Tennessee's traditionally recession-sensitive manufacturing and construction sectors, had brought record levels of unemployment to Tennessee by the end of 1981. Despite the boost in 1982 that the eastern part of the state is expected to receive from the World's Fair--a boost that will benefit primarily trade and services--these two sectors, and the state's economy as a whole, will not see robust growth in 1982. In real terms, the trade sector's growth of 1.07 percent is the highest achieved by any output sector, except mining

and agriculture. Retail sales should experience more than 3 percent real growth after adjusting for inflation. Despite the turnaround in trade output, trade employment will continue to decline slightly.

The services sector will likewise do better than most other sectors in 1982; nonetheless, its growth will be modest. Real output for services will be up 0.73 percent, more than total gross state product. Employment will continue to increase, but less than in 1981. Despite erosion in the stability of these two sectors, they still fare somewhat better in the current recession than the traditionally volatile sectors.

Through 1984, both trade and services will experience increasingly robust rates of growth. Responding to somewhat lower interest rates and higher employment and real income, retail sales rebound to a peak growth rate of 4.59 percent in 1984, adjusted for inflation. One important component of trade growth is reflected in the figures for Retail Sales in Table 18 in Appendix I. Much of the replacement has been deferred for the auto stock due for replacement in 1979, 1980, 1981, and 1982, first by high interest rates and then by the uncertainties of a recession economy. By the end of 1982, the improved economic outlook, combined with depreciating automobiles which will have to be replaced, should create a period of exceptional sales in 1983 and 1984. Sales increases of 6.6 and 6.2 percent in those two years, adjusted for inflation, are forecast. By 1984, employment in the trade sector will surpass peak employment levels in the 1970's.

Long-term Forecast

After the peak economic activity in 1984, growth in trade and services, along with other sectors, slows in 1985 and reaches a cyclical low during 1986. It should be noted that the slowdown forecast for 1986 is not expected to have the serious dimensions of the present recession, either for trade and services or the overall economy. Whatever the reasons for the puzzling behavior of the trade and services sector in Tennessee during the past two years, vis á vis the United States, we believe they are transient, rather than permanent. With employment growth of 1.54 and 1.45 percent respectively, the trade and services sectors will sustain higher growth in the 1986 downturn than most other sectors, as they have traditionally.

Unusually low growth in trade and services in 1981 and 1982 is offset by the growth of 1983, and especially 1984. These extremes are moderated in the last half of the decade, but for both trade and services the rate of employment growth over the second half is very nearly equal to the first half. Furthermore, beyond 1986, these two sectors grow at similar rates, with annual average employment growth between 2 and 3 percent. These rates, well above those for employment in manufacturing; government; transportation, communications, and public utilities; and, of course, agriculture, are a continuation of the national and state secular trend, and make Tennessee's strength in these two sectors more similar to the United States economy. By 1990, trade accounts for 22.4 percent of Tennessee employment, and services, 18.3 percent. This combined total of 40.7 compares to 38.5 percent in 1981 and 33.3 percent in 1970.

FINANCE, INSURANCE, AND REAL ESTATE

Following the usual practice in aggregate economic analysis, finance, insurance, and real estate (FIRE) are grouped into one sector for purposes of forecasting output, employment, and wages. In addition, the model forecasts certain balance sheet items for commercial banks and savings and loan institutions. This section summarizes the forecasts for the FIRE sector and gives the outlook for commercial banks.

Historical Background

Since 1973-1976 was the most recent period of recession and recovery in Tennessee, we will review that period's output, employment, and wages for comparison with the 1981-1983 period of recession and recovery. The growth rate in real gross state product for all sectors (GSP, all sectors)--the final value of the total output of goods and services in the State adjusted for inflation--fell from 9.2 percent in 1973 to -5.0 percent in 1975, while the growth in GSP originating in the FIRE sector fell from 5.7 percent growth in 1973 to 2.7 percent growth in 1975. The rates in 1976 were within 1½ percentage points of each other. During this period, then, real growth rates in FIRE's output followed the directions of the state's economy but fluctuated less widely, a characteristic of many of the state's nonmanufacturing and nonconstruction sectors. In addition, this sector exhibited higher inflation rates than the state as a whole.

Employment and wages followed dissimilar paths. While Tennessee employed persons slowly in 1973 and 1974 and fell 4.1 percent

in 1975 before recovering in 1976, FIRE jobs grew quickly in 1973 (8.0 percent) and 1974 (5.1 percent), fell slightly in 1975 (-0.9 percent) and rebounded in 1976. FIRE wages, conversely, showed greater flexibility than those in some of the other sectors. For instance, real annual wages in the state fell 1.3 percent in 1974 and 0.3 percent in 1975, whereas wages in FIRE fell 3.0 percent in 1974 and 1 percent the next year. The FIRE wage growth rate in 1976 was approximately twice that of all sectors. We thus see that, during the 1974-1975 recession, the FIRE sector's employment growth was stronger and more stable than other sectors, whereas its wages were more volatile.

The recession experience of commercial banks was mixed. The growth of total deposits fell from 13.2 percent in 1973 to 6.6 percent in 1975 and rebounded moderately to 8.8 percent in 1976. Demand deposits actually diminished in 1974. Because loan growth lagged behind deposit growth in 1975, the loan-to-deposit ratio fell from 65.8 percent in 1974 to 62.6 percent in 1975. However, the federal funds rate plummeted to 5.8 percent in 1975 from 10.5 percent in 1974. Thus, bank profits performed better in 1975 than in 1974 due to the major decrease in cost of funds, but still fell short of the pre-recession levels.

Short-term Forecast

In general, the forecast for 1981-1983 does not parallel the experience in 1973-1976. The first two rows of Table 1 seem to show that both Tennessee and FIRE output levels will recover in 1982 and 1983. However, adjusting for inflation by calculating GSP in 1972

dollars shows that the 1982 growth in real output will be approximately one-half of a percent. FIRE real output actually declined in 1981 (state real GSP rose) and will lag behind state GSP in 1983. Thus, unlike the case in 1973-1976, FIRE real output will not always follow the direction of state economic activity and will lag behind Tennessee's recovery pace.

Employment in the FIRE sector will be much more volatile in the short term than it was during 1973 through 1976. For instance, while Tennessee employment (measured in persons) remained constant in 1981, FIRE employment (measured in jobs) declined by 2.55 percent. Further, the FIRE sector employment increases in 1982 and 1983 are each significantly larger than the comparable nonagricultural jobs forecasts. This sector seems to magnify whatever employment changes occur in the state economy as a whole.

One partial explanation for this sector's output performance can be seen by examining FIRE output per employee, that is, productivity. Table 1 shows that FIRE productivity will be stagnating in the short term. In fact, output per employee actually declined in 1981. This stagnation means that employment changes will almost solely determine output changes. For instance, the table shows that employment will rise by 2.6 percent in 1983 and output will expand by 2.63 percent. The difference between the two is due to productivity. If productivity were to rise by even a moderate amount in 1981 and 1983, the performance of FIRE's output would more closely approximate that of the total. Thus we see that the poor productivity performance of the FIRE sector's employees will contribute to the poor performance of the sector's output when compared with the total activity.

TABLE 1

STATE AND FINANCE, INSURANCE, AND REAL ESTATE
INDUSTRY SELECTED VARIABLES, 1981-1983

Variable	1981	1982	1983
Tennessee Gross State Product			
(Millions of current dollars)	50,282.0	54,698.0	61,377.0
Percent Change	9.62	8.78	12.21
FIRE Output			
(Millions of current dollars)	5,840.0	6,361.0	6,998.0
Percent Change	2.69	8.93	10.02
Tennessee Gross State Product			
(Millions of 1972 dollars)	26,910.5	27,017.2	28,068.5
Percent Change	0.84	0.40	3.89
FIRE Output			
(Millions of 1972 dollars)	3,329.3	3,346.1	3,433.9
Percent Change	-2.93	0.50	2.63
Tennessee Employment			
(Thousands of persons)	1,870.0	1,871.7	1,907.7
Percent Change	0.00	0.09	1.92
FIRE Employment			
(Thousands of jobs)	76.0	76.3	78.2
Percent Change	-2.55	0.32	2.60
FIRE Output Per Employee			
(Thousands of 1972 dollars)	43.8	43.9	43.9
Percent Change	-0.39	0.18	0.02
Average Annual Wages: All Sectors			
(1972 dollars)	7,229.0	7,248.0	7,352.0
Percent Change	0.62	0.26	1.43
Average Annual Wages: FIRE			
(1972 dollars)	7,921.0	7,944.0	8,117.0
Percent Change	1.89	0.28	2.18
COMMERCIAL BANKS			
Total Loans			
(Millions of dollars)	14,250.0	15,471.0	17,221.0
Percent Change	9.85	8.56	11.31
Total Deposits			
(Millions of dollars)	21,102.0	22,802.0	25,222.0
Percent Change	6.59	8.06	10.61
Loan-To-Deposit Ratio			
(Percent)	67.5	67.8	68.3

SOURCE: Tennessee Econometric Model, January 1982 solution.

Virtually the only similarity between 1981 through 1983 and 1973 through 1976 occurs in real wages. In 1973-1976, FIRE real wages were more flexible than those of the entire state. In 1981, FIRE wages grew over three times faster than average state wages. This sector's growth rate in wages will drop dramatically to almost equal the growth rate in Tennessee wages for 1982. Then, they will rebound to a growth rate of 2.2 percent as compared to state wages, which will increase by 1.4 percent.

The period 1981-1983 will find the total deposits of commercial banks rising by a sluggish 6.6 percent in the first year, 8.1 percent in the second year, and a more vigorous 10.6 percent in the third. These rates are each 1½ to 2 percentage points higher than those in 1974-1976, perhaps in part because of higher inflation rates.

The predicted performance of the loan-to-deposit ratio should encourage commercial banks. This ratio will climb steadily from 67.5 percent in 1981 to 68.3 percent in 1983. This increased loan demand will be due, in part, to increased auto sales and lower interest rates. However, these lower interest rates will reduce the average yield on loans by over 2 percentage points from 15.7 percent to 13.6 percent. This may be offset slightly by the modest cost savings realized from All-Savers Certificates.

Long-term Forecast

Although FIRE real output will not parallel total activity in the short term and its growth rates will lag behind those of gross state product, the reverse will be true in the long term (Table 2). Both real GSP and FIRE real output growth rates will decline from

TABLE 2

STATE AND FINANCE, INSURANCE, AND REAL ESTATE
INDUSTRY SELECTED VARIABLES, 1984-1990, SELECTED YEARS

Variable	1984	1987	1990
Tennessee Gross State Product			
(Millions of 1972 dollars)	29,236.7	31,596.3	34,882.0
Percent Change from preceding year	4.16	2.88	3.40
FIRE Output			
(Millions of 1972 dollars)	3,583.9	3,953.9	4,436.8
Percent Change from preceding year	4.37	4.05	3.91
Tennessee Employment			
(Thousands of persons)	1,946.5	2,011.0	2,118.7
Percent Change from preceding year	2.03	1.51	1.87
FIRE Employment			
(Thousands of jobs)	80.6	84.9	91.1
Percent Change from preceding year	2.98	2.46	2.47
FIRE Output Per Employee			
(Thousands of 1972 dollars)	44.5	46.6	48.7
Percent Change from preceding year	1.35	1.55	1.40
Average Annual Wages: All Sectors			
(1972 dollars)	7,507.0	7,957.0	8,620.0
Percent Change from preceding year	2.11	2.07	2.75
Average Annual Wages: FIRE			
(1972 dollars)	8,315.0	8,826.0	9,604.0
Percent Change from preceding year	2.45	1.85	2.93
COMMERCIAL BANKS			
Total loans			
(Millions of dollars)	19,014.0	25,353.0	34,871.0
Percent Change from preceding year	10.41	10.55	12.13
Total deposits			
(Millions of dollars)	27,698.0	36,513.0	49,728.0
Percent Change from preceding year	9.82	10.14	11.78
Loan-To-Deposit Ratio			
(Percent)	68.6	69.4	70.1

SOURCE: Tennessee Econometric Model, January 1982 solution.

1984 through 1986, rebound in 1987, and then stay at roughly their 1987 levels through 1990. The jump from 1986 to 1987 will be much larger in the FIRE sector than in the total, however. In contrast to 1981-1983, the growth in FIRE's real output will be around 3.6 percent per year over 1984-1990, while the GSP growth will average roughly 3.0 percent per year.

The cause of this reversal in relative growth may be found by examining both predicted employment and productivity patterns. First of all, FIRE employment changes will generally follow the directions of total employment changes. More importantly, though, the average FIRE employment growth of approximately 2.0 percent per year will exceed that of Tennessee total employment. Indeed, this sector's growth will surpass Tennessee's employment growth in every year from 1984 through 1990. These above-average employment growth rates certainly contribute to the sector's vigorous output growth. However, a more significant factor may be the projected striking improvement in the productivity of the FIRE sector's employees in the long term. During 1981 through 1983, output per employee will decline slightly. Productivity is forecast to rise by nearly 1.5 percent per year in the long term, however. Both healthy growth in employment and dramatic improvement in output per employee will contribute to this sector's vigorous output performance in the long term.

Similarity will characterize the patterns of state and FIRE real wages over the long term. FIRE wages will rise and fall in step with Tennessee wages, although this sector's growth rate will usually surpass the state's. The excess will be slight, however, as evidenced by a predicted Tennessee growth rate of around 2.3

percent per year and a FIRE average growth of about 2.4 percent. This sector's growth in real wages will exceed its productivity growth, however.

The simplest characterization of the long-term picture for commercial banks is that short-term trends will continue. Interest rates will decline significantly from 1983 to 1984, but will then drift slowly downward over the remainder of the decade. Real personal incomes will rise steadily, thus fostering increased demand for goods and services. Consequently, average annual deposit growth, which equalled 8.8 percent in 1974-1976, and will reach 9.3 percent in 1981-1983, will rise to approximately 10.2 percent in the long-term. This high rate will be caused primarily by rapid growth in time deposits. Demand deposits will grow steadily but slowly. Further, the loan-to-deposit ratio will continue to climb to around 70 percent by 1990. In addition, the average yield on loans will follow the downward path of interest rates by descending roughly 1½ percentage points to below 11 percent. This decline will be much more gradual than the fall of over 2 percentage points to be seen during 1981 through 1983.

TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

The transportation, communications, and public utilities (TCPU) sector comprises a small but diverse number of firms in Tennessee. In the area of transportation it includes trucking and warehousing, barge companies, railroads and airlines. The communications group includes telephone and telegraph companies, radio and television broadcasting, and residential cable companies. The public utilities

group includes gas pipeline and distribution, private refuse, water and sewer firms. The TVA and municipally-owned utility services are not included. Most of these firms are regulated to some extent by government.

The various regulatory agencies have powers that, to some extent, control entry and exit, the level of rates that can be charged, control of operating expenses, approval of mergers, level of operation, and many other aspects of business management. Historically, this regulatory environment has served to somewhat insulate this sector from the ups and downs of the business cycle, making forecasting relatively easy. However, within the last three years new legislation has been passed deregulating some aspects of the airline, trucking, and railroad industries. New regulatory initiatives are underway in the communications sector. All of these efforts will have an important impact on this sector, but it is difficult to determine what form this will take.

Historical Background

For the past ten years, TCPU sector output has grown slightly faster than overall gross state product. Since 1971, nominal output has increased from $1.3 billion to $4.0 billion in 1981, a 11.8 percent annual compound rate. Employment increases averaging 1.99 percent annually have been somewhat lower than for the state as a whole, reflecting the capital-intensive nature of most of the industries in this group. Table 3 reflects the impact of the last two recessions on the TCPU sector. During the 1974-1975 downturn, growth of output was cut, while employment declined 4.7 percent. In the 1980

TABLE 3

HISTORICAL RATES OF CHANGE IN OUTPUT AND EMPLOYMENT--TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

Year	Output (In millions of current dollars)	Annual Percent Change	Employment (Thousands)	Annual Percent Change
1971	$1,292	12.94	67.2	1.20
1972	1,481	14.63	69.3	3.12
1973	1,683	13.64	72.4	4.47
1974	1,841	9.40	74.3	2.62
1975	1,982	7.65	70.8	- 4.71
1976	2,324	17.29	73.3	3.53
1977	2,619	12.68	78.3	6.82
1978	3,051	16.48	83.2	6.26
1979	3,364	10.27	87.3	4.93
1980	3,694	9.81	85.6	- 1.95
1981	3,951	6.97	81.8	- 4.49

SOURCE: Tennessee Econometric Model, Historical Data and January 1982 solution.

recession, output growth slowed only slightly and employment declined by less than 2.0 percent. However, the sector did not recover in 1981 and output grew only 7.0 percent, the lowest year-to-year change for the past ten years, and employment sank another 4.5 percent.

The steep fall-off in growth for the past two years is partly explained by the recessions of 1980 and 1981, but may also be the result of recent deregulation decisions. As discussed in last year's report, there has been a drastic reduction in air transportation services in a number of Tennessee markets since 1979. Similarly, many unionized trucking firms have had difficulty adjusting to a deregulated business environment. The construction slump has reduced the demand for new phone, water, gas, and sewer hookups. On the other hand, a number of new cable TV services have recently opened across the state, and last year the state legislature passed a liberalized truck weight bill designed in part to improve the competitive position of Tennessee-based trucking firms.

Short- and Long-term Forecasts

The TCPU sector is expected to recover somewhat slowly from the current downturn in 1982 (Table 4). Employment is forecast to continue declining, but at a slower rate, while nominal dollar output rebounds at a 12.07 percent annual rate. However, increases in output do not return to the long-run growth path until 1984. During the forecast period, employment is expected to grow at an annual compound rate of 1 percent--one-third the rate achieved during the 1970's. Employment is not forecast to return to the 1979 peak of 87,300 until 1989.

TABLE 4

FORECASTS OF OUTPUT AND EMPLOYMENT--
TRANSPORTATION, COMMUNICATIONS, AND
PUBLIC UTILITIES

Year	Output (In millions of current dollars)	Annual Percent Change	Employment (Thousands)	Annual Percent Change
1981	$ 3,951	6.97	81.8	- 4.49
1982	4,428	12.07	81.0	- 0.98
1983	4,990	12.70	82.9	2.44
1984	5,723	14.69	84.1	1.39
1985	6,421	12.19	85.0	1.10
1986	7,148	11.33	85.4	0.50
1987	7,956	11.30	86.1	0.80
1988	8,921	12.13	87.1	1.17
1989	9,984	11.92	88.4	1.43
1990	11,184	12.03	89.8	1.58

SOURCE: Tennessee Econometric Model, January 1982 solution.

During the 1980's, nominal output is forecast to grow somewhat slower than the long-term trend, but at a somewhat higher annual compound rate as gross state product. This slowdown is primarily a result of slower anticipated growth of the state's economy during the next decade. Slow employment growth can be explained by the capital-intensive nature of the industries in TCPU and the likelihood of significant productivity improvements, especially in the transportation and communications groups. The main unknown factor in this forecast is the long-run effect of deregulation on the transportation and communications sectors. Depending on price elasticities (normally considered relatively inelastic in these industries), deregulation could lead to a larger long-run expansion of output and employment than is forecast here.

CONSTRUCTION

Historical Background

Tennessee construction output is determined by Tennessee Gross State Product (GSP)--the final value of the total output of goods and services in the state--and long-term interest rates. It is thus no surprise that state construction has recently paralleled the fluctuations in the Tennessee and U.S. economies. The last ten years have seen cycles of two- to three-year expansions followed by two- to three-year recessions in the national and state economies and in the construction sector. The easing of mortgage credit conditions and the mid-1975 recovery of the economy stimulated the last expansion in Tennessee construction over the period 1976-1978.

However, the bottom fell out in 1980. As mortgage interest rates skyrocketed and the supply of mortgage funds evaporated, real (adjusted for inflation) national and state nonresidential and residential construction outputs nosedived. In fact, Tennessee's real 1980 contract construction output fell 10.4 percent from its 1979 level. Few state industries exhibited larger percentage declines in real output.

Short-term Forecast

Factors combined in 1981 to push interest rates very high and will combine again in 1982 to support them at only slightly lower levels. The first factor is monetary policy. As noted in the section on manufacturing, a restrictive monetary policy consists of a reduced rate of growth of the money supply. Monetary restraint tends to raise interest rates, which inhibits private spending for, among other things, residential construction. Inflationary expectations arising from huge budget deficits are often manifested in higher interest rates. The Fed has not recently shown any intention of loosening its tight grip on the growth rate of the money supply. President Reagan is facing budget deficits which are forecast to be approximately $100 billion for the 1982 fiscal year and to grow in the future.

Interest rates will be nearly as high in 1982 as they were in the latter part of 1981. A minority of analysts warns that interest rates may attain record highs at some point in 1982. However, we do expect that rates will dip somewhat by either late 1982 or early 1983. Furthermore, the 1980-1982 recessions' effects on economic

activity are expected to continue into 1982, with the most anemic postwar recovery ever seen. Consequently, Tennessee's economic activity is not likely to increase significantly until late 1982 or early to mid-1983.

The expected performances of both the Tennessee economy and interest rates are reflected in the forecasts for the years 1981-1983. Table 5 shows that state real GSP crept up in 1981 (0.84 percent), will rise slowly in 1982 (0.40 percent), but will rebound dramatically in 1983 with a jump of 3.89 percent. Not surprisingly, the recovery in the state's construction industry will wait until 1983 also. 1981 suffered a decline in real construction output of 3.01 percent and 1982's real output will also drop. During 1983, real construction output will leap by 9.01 percent to a level of over $865 million. Despite this growth, the 1983 level of output will still fall short of real construction output in 1971.

Construction employment in 1981 mirrored and exaggerated the predicted performance of construction output. 1981's employment fell by 8.6 percent and the number of construction workers employed in 1982 will drop farther. The plight of the state's construction industry by 1982 can be seen clearly by realizing that construction employment in 1982 will be at its lowest level since 1970. However, employment will rise 7.9 percent in 1983 as interest rates decline and funds for building new residences proliferate.

While the forecasts for output and employment contain gloomy elements, the expected performance of construction's real wages are encouraging. From 1981 through 1983, average construction real wages will exceed average wages for the all sectors. In addition, the

TABLE 5

STATE AND CONSTRUCTION INDUSTRY
SELECTED VARIABLES, 1981-1983

Variable	1981	1982	1983
Tennessee Gross State Product			
(Millions of current dollars)	50,282.0	54,698.0	61,377.0
Percent Change	9.62	8.78	12.21
Construction Output			
(Millions of current dollars)	1,856.0	2,000.0	2,311.0
Percent Change	2.94	7.72	15.54
Tennessee Gross State Product			
(Millions of 1972 dollars)	26,910.5	27,017.2	28,068.5
Percent Change	0.84	0.40	3.89
Construction Output			
(Millions of 1972 dollars)	794.7	793.9	865.4
Percent Change	-3.01	-0.10	9.01
Construction Employment			
(Thousands of jobs)	70.2	68.6	74.0
Percent Change	-8.60	-2.29	7.90
Average Annual Wages: All Sectors			
(Current dollars)	14,025.0	15,345.0	16,785.0
Percent Change	9.11	9.41	9.38
Average Annual Wages: Construction			
(Current dollars)	15,830.0	17,313.0	19,027.0
Percent Change	10.41	9.37	9.90
Average Annual Wages: All Sectors			
(1972 dollars)	7,229.0	7,248.0	7,352.0
Percent Change	0.62	0.26	1.43
Average Annual Wages: Construction			
(1972 dollars)	8,160.0	8,178.0	8,334.0
Percent Change	1.81	0.22	1.91

SOURCE: Tennessee Econometric del, January 1982 solution.

growth rate in 1981 will be three times that of the average real wage for all sectors, whereas 1982's predicted growth rate slips to .22 percent, and 1983's rate jumps to 1.91 percent. This will occur presumably as firms respond to increased opportunities by bidding up wages in order to hire more workers.

Long-term Forecast

The period 1984 through 1990 reflects the usual situation of construction output responding to both Tennessee overall economic activity and long-term interest rates. Table 6 gives selected variables for this period. State GSP growth will reach a peak rate in 1984, slow for two years, and then follow a strong upward path for the remainder of the decade. In addition, we expect that interest rates in 1984 will continue the significant plunge which they took in 1983 and then drift slowly downward through 1990. The combination of a precipitous decline in interest rates, peak growth in state economic activity, and pent-up demand for housing will induce a growth in construction output during 1984 of around 9.0 percent. Afterwards, output will follow the direction of Tennessee activity for two years and then rise to a range of growth rates around 3.7 percent per year in the final three years. Despite this healthy growth, it will be 1985 before real construction output will exceed 1973's real output level.

Whereas the performance of construction employment will be mixed during 1984-1990, real wages for this sector will move continually and strongly upward. The average construction employment growth rate is over 2.3 percent for this period. However, this average

TABLE 6

STATE AND CONSTRUCTION INDUSTRY SELECTED VARIABLES, 1984-1990, SELECTED YEARS

Variable	1984	1987	1990
Tennessee Gross State Product (Millions of 1972 dollars)	29,236.7	31,596.3	34,882.0
Percent Change from preceding year	4.16	2.88	3.40
Construction Output (Millions of 1972 dollars)	948.0	1,021.2	1,139.3
Percent Change from preceding year	9.54	2.92	3.74
Construction Employment (Thousands of persons)	81.1	86.2	93.4
Percent Change from preceding year	9.52	3.76	2.84
Average Annual Wages: All Sectors (1972 dollars)	7,507.0	7,957.0	8,620.0
Percent Change from preceding year	2.11	2.07	2.75
Average Annual Wages: Construction (1972 dollars)	8,556.0	9,292.0	10,344.0
Percent Change from preceding year	2.66	2.84	3.67

SOURCE: Tennessee Econometric Model, January 1982 solution.

obscures lively movements in employment. Responding to those factors which will generate high output in 1984, employment will first grow at a vigorous 9.5 percent. Next the growth rates will fall until reaching negative rates (a decline in employment) in 1986, jump quickly to relatively high growth, and then level off at around 2.9 percent growth per year in the final two years. Total construction employment will not exceed the 1974 level of employment until 1988. In contrast to employment, the real wages of construction employees will stay higher than statewide average wages and will exhibit larger rates of growth in every year during 1984-1990. These two characteristics will continue the performance of real wages during 1981 through 1983. The average all-sectors growth rate in real wages will be 2.3 percent, while the average construction growth will be about 3.2 percent. Since average construction wages exceed average statewide wages, it is no surprise that the wage gap between this sector and the rest of the state will widen in the long term.

ENERGY

Historical Background

In most sectors of the Tennessee economy, changes occur slowly and can, at least to some extent, be anticipated. In both these senses the Energy sector has proved quantitatively and qualitatively different over the past decade. The 1970's were characterized by a series of major supply and price shocks in every type of primary energy. At the heart of those shocks were both economic and political motives which are only now coming to be understood.

It is now clear that the energy sector of the economy, both on the national and state levels, has become a dynamically intricate and active sector which will, for the foreseeable future, see economic and political agents scramble to deal with a multitude of energy-related issues. Principal among these issues are these questions: Will the growth of energy demand continue in the face of increased energy prices? Will there be an adequate supply of primary energy in the future to satisfy individual, commercial, and industrial needs in Tennessee? In the future, will Tennessee maintain its historic advantage in the provision of low-cost electricity? If not, to what extent will economic growth be retarded? If so, to what extent might economic growth be stimulated? What role can, and should, energy conservation programs play in the future? What effects will oil and natural gas price deregulation have on the Tennessee economy?

Obviously, it is much easier to raise these issues than to answer them. However, in order to provide a sound basis for policy decisions in the energy sector, some notion of future prices, demand, and output is essential. It was with this necessity in mind that the energy sector was modelled and forecasts included in TEM.

Short-term Forecast

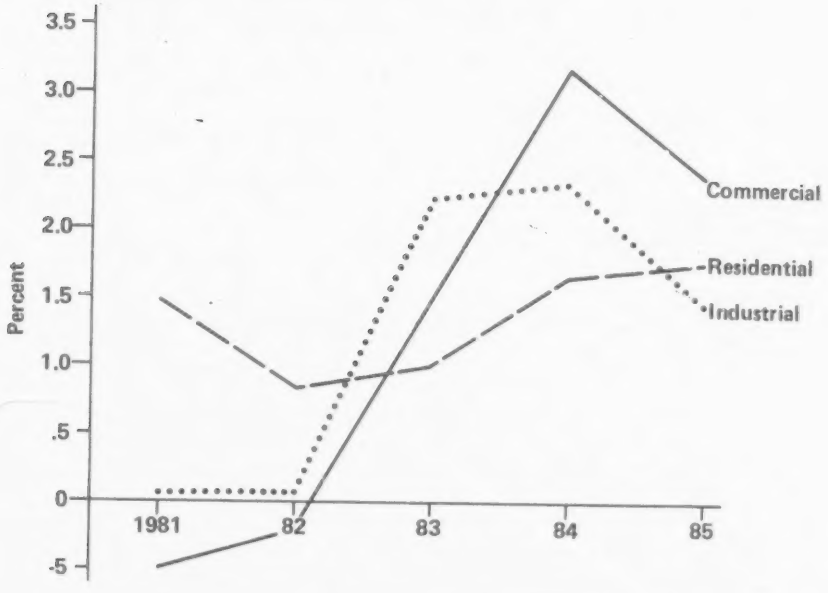
Consumption patterns of all the primary energy sources in Tennessee have undergone rather substantial shifts in the past few years. Energy consumption, which had previously been thought to be insensitive to price changes, has fallen significantly or slowed substantially in growth for every primary energy commodity. As a result of this newly found sensitivity of consumption to price changes,

the short-run forecast for energy consumption reflects only small increases. In 1982, electricity consumption will grow by only 0.43 percent, due primarily to slow economic growth. An additional factor contributing to the slow growth of electricity consumption in 1982 will be the adjustment made by consumers to recent electricity price increases. Electricity consumption is expected to grow in the neighborhood of 1.5 to 2.0 percent during the 1983-1985 period. During this period, residential electricity consumption should grow more slowly than consumption by commercial and industrial users (see Figure 5). Natural gas consumption in Tennessee will fall during the 1982-1985 period. Consumption reductions will be on the order of 1.5 to 2.0 percent in the short run. Coal consumption in Tennessee is expected to grow in the 1982-1985 period by around 1 percent annually, with the exception of 1983 in which there will be a mild downturn in consumption. Gasoline consumption will remain approximately at its 1982 level through 1984, at which time consumption will increase by 1.5 percent. Fuel oil consumption will grow between 1.0 and 2.0 percent annually during the 1982-1985 period.

Energy prices have played, and will continue to play, an important role in determining energy consumption. In addition, changes in energy prices can cause short-run difficulties for firms and consumers as they attempt to find alternative, less costly means of accomplishing their objectives. Electricity prices are expected to rise rapidly in the 1982-1985 period. Prices for electricity are forecast to increase by 9.0 to 10.5 percent annually through 1985, though the increase will be sensitive to both the TVA building plan and the real interest rate. In addition to the conservation-inducing

FIGURE 5

ELECTRICITY CONSUMPTION BY SECTOR, 1981-1985



SOURCE: Tennessee Econometric Model, January 1982 solution.

effect of the level of electricity prices, the structure of rates will change to induce further consumption reduction. Natural gas prices are expected to rise rapidly through 1985 as prices are deregulated. Because of the relative abundance of coal and excess capacity in coal production, coal price increases should not be as high as for other energy sources through 1985. Gasoline price increases, which have experienced large jumps in 1974 and 1979, are expected to moderate through 1985. This reflects the current world oil glut, more stable sources of imported oil, and increased domestic drilling activity which accompanied price deregulation. Figure 6 displays energy price projections through 1985.

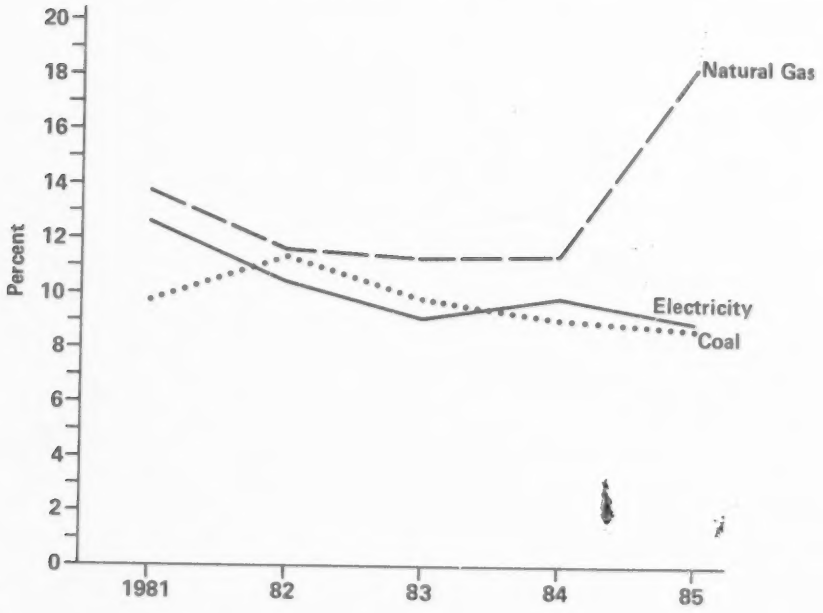
Long-term Forecast

Because of the many political uncertainties concerning the energy sector in the long run, forecasting consumption, supply and prices becomes quite difficult. However, there are several factors which are known with some degree of certainty. It is now clear that long-run economic growth is less susceptible to energy price increases than had been thought during the 1970's. As energy prices increase, substitution will occur both between alternative energy sources and between energy and other factors of production. This substitution process, which is reflected in the short-run forecast, is likely to continue throughout the 1980's. As a result, energy consumption is expected to grow by only around 2.0 percent annually through 1990. This is significantly lower than the historic consumption growth.

Energy prices in the long run will be governed by the laws of supply and demand. Slower growth in energy consumption will have a

FIGURE 6

PERCENT RATE OF CHANGE IN PRICE OF ENERGY BY TYPE, 1981-85



SOURCE: Tennessee Econometric Model, January 1982 solution.

moderating effect on long-run energy prices. On the supply side, prices will be driven by the additions, or lack of additions, to reserves of primary energy stocks and by changes in technology.

GOVERNMENT

Forecasts for federal, state, and local government activity are included in this chapter. The analysis focuses on the growth of state government tax revenues which comprised approximately 54 percent of total state revenue in fiscal 1981 and 43 percent of total own-source tax collections by Tennessee state and local governments. The recent slowdown in state and local tax collections and anticipated cutbacks in federal transfers lead to a forecast of slow Government output and employment increases in the 1980's. Government sector nominal dollar output is expected to expand at an 11.1 percent annual compound rate over the next nine years compared to an 11.6 percent annual rate during the 1970's. Government employment peaked in 1980 at 314.7 thousand and is expected to decline to 303.9 thousand in 1982. When compared to the rapid advance of the last decade, government employment should grow very slowly during the 1980's, achieving only an 0.8 percent annual rate.

Historical Background

During the past decade, state and local government expenditures grew by 180 percent and employment by 30 percent. However, this growth was not continuous, but came in spurts. As can be seen in Table 7, state tax collections, the largest source of tax revenue for state and local governments, grew most rapidly during fiscal

TABLE 7

HISTORICAL CHANGE IN STATE TAX COLLECTIONS
FY 1967 TO FY 1981

Fiscal Year	Revenue Department Tax Collections (In millions of current dollars)	Annual Percent Change	
1966	$ 456.7	10.04	
1967	489.9	7.27	
1968	554.2	13.13	TAX INCREASE
1969	618.7	11.63	
1970	658.2	6.39	RECESSION
1971	705.4	7.17	
1972	857.5	21.56	TAX INCREASE
1973	969.4	13.04	
1974	1,055.4	8.88	
1975	1,106.0	4.77	RECESSION
1976	1,230.0	11.25	
1977	1,487.0	20.89	TAX INCREASE
1978	1,630.5	9.65	
1979	1,795.9	10.14	
1980	1,848.9	2.95	RECESSION
1981	1,931.7	4.47	

SOURCE: Center for Business and Economic Research.

1968, 1972, and 1977. In all three cases, this growth was caused by substantial tax increases. In 1967, the Legislature increased the corporate excise tax rate from 4 to 5 percent and raised inheritance, alcohol, and tobacco taxes and motor vehicle license fees. Tax collections increased 13 percent from fiscal 1967 to fiscal 1968. Thereafter the annual rate of growth declined to a low of 6.4 percent during the recession year of 1970. In 1971, the Legislature approved another substantial tax increase, again raising the corporate excise tax and increasing the general sales tax from 3 to 3½ percent. Coming at a time of bouyant economic conditions, these tax changes led to the largest single year-to-year increase (21.6 percent) in tax collections in recent history and to a large state surplus. Following two relatively good years in 1973 and 1974, the rate of increase fell again during the 1974-75 recession. The Legislature was once more forced to increase taxes in 1976, upping the general sales tax rate a full percentage point. During fiscal 1977, tax revenues grew by over 20 percent and continued to expand at a healthy pace until the 1980 recession, when growth stalled once more.

The impact of these frequent tax increases can be seen even more vividly in Table 8. In this table, tax collections are deflated using the state-local government price deflator. As can be seen, in real terms state tax revenues declined during recessionary periods and advanced very slowly in those years when there were no tax increases. Between 1967 and 1981 real growth of tax collections was 46.7 percent--a rate smaller than the rate of growth of gross state product over the same period.

TABLE 8

HISTORICAL CHANGE IN STATE TAX COLLECTIONS
(In Constant Dollars and With Constant Rates and Bases)

Fiscal Year	Revenue Department Tax Collections (In constant 1972 dollars*)	Annual Percent Change	Revenue Department Tax Collections (With constant rates and bases in constant 1972 dollars*)	Annual Percent Change	
1966	$ 631.6	- 4.73	$ 631.6	- 4.73	
1967	690.9	9.39	690.9	9.39	
1968	730.2	5.69	682.3	- 1.24	TAX INCREASE
1969	762.9	4.48	702.3	2.93	
1970	748.0	- 1.95	676.8	- 3.63	RECESSION
1971	748.8	0.11	681.6	0.71	
1972	857.5	14.52	720.4	5.69	TAX INCREASE
1973	899.3	4.87	752.6	4.47	
1974	926.6	3.04	780.6	3.72	
1975	891.9	- 3.74	747.0	- 4.30	RECESSION
1976	915.9	2.69	750.6	0.48	
1977	1,037.5	13.28	787.9	4.97	TAX INCREASE
1978	1,067.1	2.85	814.2	3.34	
1979	1,101.8	3.25	845.1	3.79	
1980	1,058.3	- 3.95	808.0	- 4.39	RECESSION
1981	1,013.5	- 4.23	772.5	- 4.39	

*Deflated using the State-Local Government Price Deflator.

SOURCE: Center for Business and Economic Research.

However, most of this real growth came as a result of tax increases. Column 3 of Table 8 shows the year-to-year increase in tax collections if there had been no tax increases over the period. In this case, real growth amounts to only 11.8 percent, or 0.8 percent annually. During the same period, real gross state product increased at a 3.7 percent annual compound rate. One can conclude from these two tables that most of the apparent increase in state tax collections resulted from the high prevailing rates of inflation in the economy generally. Each time the real spending power of state tax revenues declined appreciably under the impact of national recession and continued high rates of inflation, the Legislature had to resort to tax increases to restore the real value of the state tax dollar. Despite the relatively high rates of growth experienced by the Tennessee economy, especially over the first half of the period, this growth contributed very little to the state tax revenue picture.

Short-term Forecast

As in prior periods, the recession of 1980 triggered a need for state tax increases. In 1981, the Legislature enacted a 2¢ increase in the gasoline tax and other increases for truck licensing. Tax revenues, which grew only 4.5 percent in nominal dollars between fiscal 1980 and 1981, are expected to increase 11 percent this year. Gasoline taxes should grow by 33 percent and motor vehicle taxes by 17 percent. Next year, however, the overall rate of increase should decline to 7 percent, if there are no new tax increases.

In contrast to past increases, the tax increases enacted in 1981 primarily benefit the Highway Fund rather than the General Fund.

General Fund taxes are expected to continue to grow slowly this year and next. As can be seen in Table 8, between 1979 and 1981 the real value of state tax collections declined by 8 percent. This trend is reversed slightly in fiscal 1982 because of the tax increases, but is expected to continue in fiscal 1983. Next fiscal year it is expected that the real value of state tax revenues will be the same as it was four years ago.

The anticipated slowdown in state and local tax collections may lead to layoffs and hiring freezes at the state and local levels during this year. In addition, TVA is considering shutting down construction of two reactor projects at Hartsville and one at Yellow Creek in Mississippi near the Tennessee border. This will lead to a loss of 4,000 Government jobs during the 1982-1985 period and an additional 500 jobs during 1986-1990. TVA construction employment is already down significantly from its peak in 1980 because of the decision last year to delay completion of several nuclear projects in the state. If these additional layoffs occur during the decade, total government employment should decline through 1986 and not begin to grow again until 1987.

Long-term Forecast

Because these projections assume no future tax increases at the state level and no expansion of local government taxing authority, the growth of total tax collections at the state and local levels is expected to be lower during the coming decade than during the last (See Table 9). Since inflation is expected to persist, although at lower rates, the real value of state and local tax dollars is

TABLE 9

COMPARISON OF THE HISTORICAL GROWTH OF STATE TAX REVENUE AND FORECAST GROWTH (In Current and Constant Dollars)

	Total Percent Change	
State Tax Collections	1971-1980	1981-1990
Total Collections:		
(In current dollars)	262.1	207.2
(In constant 1972 dollars)	141.3	91.6
Total Collections Adjusted for Rate and Base Changes:		
(In current dollars)	219.8	196.6
(In constant 1972 dollars)	118.5	86.9
Local Tax Collections		
(In current dollars)	239.8	196.7
(In constant 1972 dollars)	129.2	86.9

SOURCE: Center for Business and Economic Research and Tennessee Econometric Model, January 1982 solution.

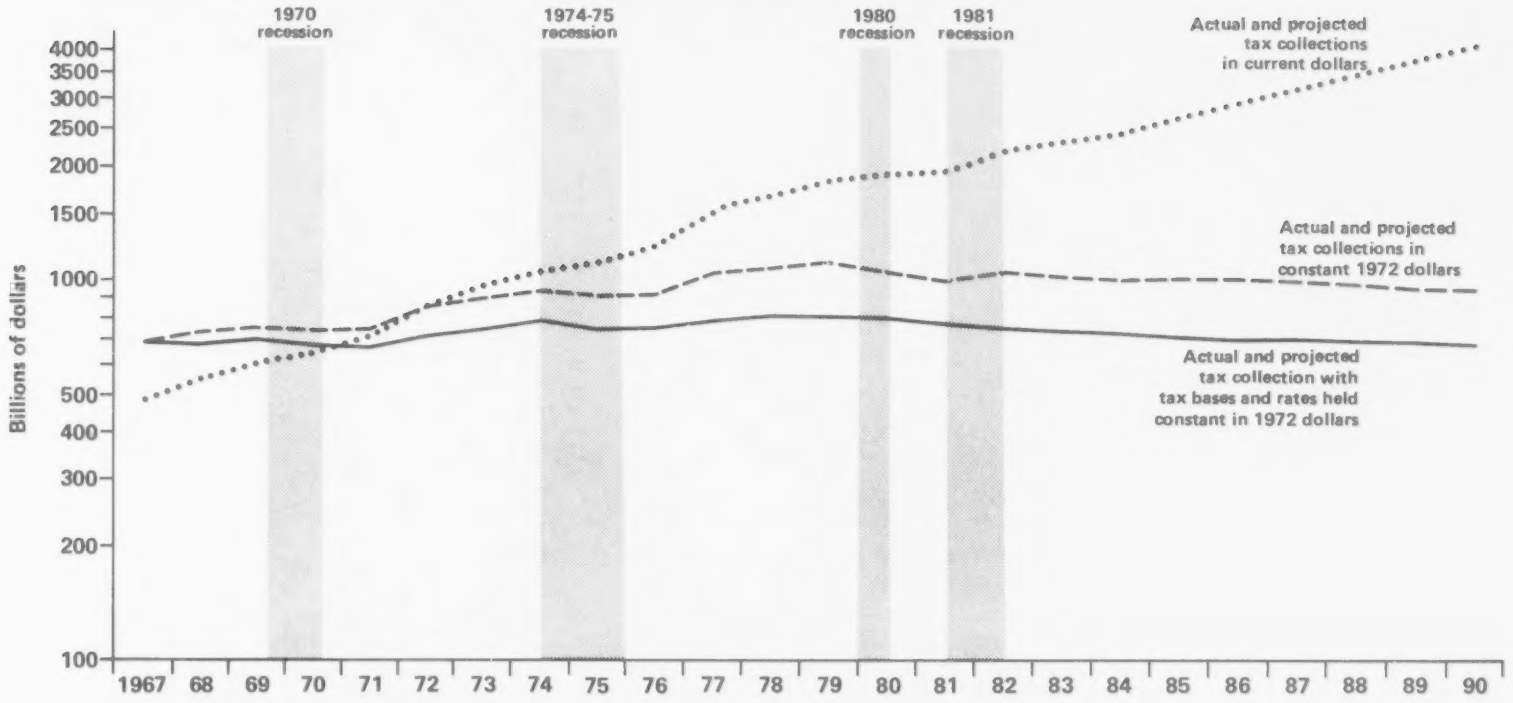
forecast to decline. By 1990, each dollar of state tax revenue is expected to be worth 92¢ in purchasing power and each local dollar, 87¢. Without periodic tax increases in the coming decade, the size of the state-local government sector will shrink relative to the total economy. This will necessitate continuing expenditure adjustments, especially if the growth of intergovernmental assistance from the federal government is curtailed significantly over the long run.

Besides the erosion of state-local tax bases because of inflation, the economic growth of the state is expected to be somewhat slower during the 1980's than it was during the 1970's, as discussed elsewhere in this report. Looking at total state tax collections adjusted for rate and base definition changes occurring since 1967, one can get a measure of the impact of economic growth on the state's tax collections that are purged of the effects of inflation and periodic tax increases. During the 1970's, this grew by 18.5 percent, indicating that the growth of the state's economy contributed to some extent to the long-run increase in state tax revenues. But, as Table 9 shows, this trend is not anticipated to continue in the 1980's.

Figure 7 provides a summary of the historical and projected trends in state tax collections. One can see the periodic effects of recessions and tax increases on long-term trends. But if the totals are adjusted to remove the effects of tax increases and inflation, the trend is essentially flat over the historical period (the bottom line on the chart) and declining over the projected period. During the forecast period the state's economy is expected to grow in real terms. Hence, without periodic tax increases in

FIGURE 7

HISTORICAL AND PROJECTED STATE TAX COLLECTIONS IN CURRENT AND CONSTANT DOLLARS AND WITH TAX BASES AND RATES HELD CONSTANT



SOURCE: Center for Business and Economic Research and Tennessee Econometric Model, January 1982 solution.

the future, Tennessee's tax system is forecast to remain unresponsive to this growth, and state and local government will receive ever smaller shares of the total annual output available for consumption and investment.

APPENDIX I FORECAST DATA

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 1: TENNESSEE SELECTED INDICATORS

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TN GROSS STATE PRODUCT (MIL. DOL.)	50282.	54698.	61377.	68934.	76633.	84050.	92783.	102721.	113826.	126112.
2	PERCENTAGE CHANGE	9.62	8.78	12.21	12.31	11.17	9.68	10.39	10.71	10.81	10.79
3											
4	TN GROSS STATE PRODUCT (MIL 72 $)	26910.5	27017.2	28068.5	29236.7	30184.3	30710.5	31596.3	32636.4	33735.8	34882.0
5	PERCENTAGE CHANGE	0.84	0.40	3.89	4.16	3.24	1.74	2.88	3.29	3.37	3.40
6											
7	US GROSS NATIONAL PRODUCT (BIL 72 $)	1508.7	1516.9	1579.7	1640.2	1690.8	1721.0	1768.3	1823.1	1878.6	1934.1
8	PERCENTAGE CHANGE	1.89	0.54	4.14	3.83	3.08	1.79	2.75	3.10	3.04	2.95
9											
10	TN PERSONAL INCOME (MIL. DOL.)	39361.	43281.	48034.	53353.	59220.	65879.	73212.	81160.	90166.	100207.
11	PERCENTAGE CHANGE	10.80	9.96	10.98	11.07	11.00	11.24	11.13	10.86	11.10	11.14
12											
13	TN PERSONAL INCOME (MIL 72 $)	20283.2	20444.6	21040.1	21688.1	22364.0	22994.4	23808.9	24781.8	25717.7	26743.2
14	PERCENTAGE CHANGE	2.17	0.77	2.91	3.08	3.12	2.82	3.54	4.09	3.78	3.99
15											
16	US PERSONAL INCOME (BIL 72 $)	1238.8	1240.1	1269.7	1300.2	1330.3	1356.2	1395.2	1448.5	1498.5	1540.2
17	PERCENTAGE CHANGE	2.59	0.11	2.39	2.41	2.31	1.95	2.87	3.82	3.45	2.78
18											
19	TN EMPLOYED PERSONS (THOUS)	1870.0	1871.7	1907.7	1946.5	1969.7	1981.2	2011.0	2043.2	2079.8	2118.7
20	PERCENTAGE CHANGE	0.00	0.09	1.92	2.03	1.19	0.58	1.51	1.60	1.79	1.87
21											
22	US EMPLOYED PERSONS (MIL)	100.5	100.9	103.5	105.8	107.4	108.3	110.1	111.8	113.5	115.2
23	PERCENTAGE CHANGE	1.28	0.46	2.51	2.27	1.47	0.88	1.62	1.54	1.51	1.55
24											
25	TN UNEMPLOYMENT RATE	8.5	8.9	8.1	7.3	7.2	7.5	7.0	6.6	6.1	5.6
26											
27	US UNEMPLOYMENT RATE	7.5	8.1	7.7	6.9	6.8	7.0	6.6	6.4	6.1	5.8
28											
29	IMPLICIT DEFLATOR, GSP	186.8	202.5	218.7	235.8	253.9	273.7	293.6	314.7	337.4	361.5
30	PERCENTAGE CHANGE	8.70	8.35	8.01	7.82	7.68	7.80	7.29	7.18	7.20	7.15
31											
32	IMPLICIT DEFLATOR, GNP	193.6	210.5	227.3	245.3	264.8	286.0	308.2	331.0	355.7	382.0
33	PERCENTAGE CHANGE	9.16	8.73	7.98	7.92	7.95	8.01	7.76	7.40	7.46	7.39
34											
35	TN MFG OUTPUT / EMPLOYEE (THOUS 72 $)	19.4	19.4	20.1	20.5	20.9	21.1	21.5	22.0	22.5	23.0
36	PERCENTAGE CHANGE	3.46	-0.11	3.68	2.32	1.86	0.72	2.02	2.44	2.23	2.02
37											
38	US MFG OUTPUT / EMPLOYEE (THOUS 72 $)	17.9	18.1	18.7	19.4	19.9	20.1	20.6	21.4	22.0	22.5
39	PERCENTAGE CHANGE	3.78	1.39	3.36	3.56	2.42	1.08	2.59	3.54	2.80	2.63
40											
41	TN PER CAPITA INCOME ($)	8468.	9187.	10045.	11013.	12099.	13337.	14673.	16117.	17741.	19517.
42	PERCENTAGE CHANGE	9.70	8.49	9.33	9.64	9.85	10.23	10.02	9.84	10.08	10.01
43											
44	TN POPULATION (THOUS.)	4648.	4711.	4782.	4844.	4895.	4940.	4990.	5036.	5082.	5134.
45	PERCENTAGE CHANGE	1.00	1.35	1.51	1.30	1.04	0.92	1.01	0.92	0.92	1.03

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 2: TENNESSEE GROSS STATE PRODUCT BY SECTOR
(Millions of Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	GROSS STATE PRODUCT	50282.	54698.	61377.	68934.	76633.	84050.	92783.	102721.	113826.	126112.
2	PERCENTAGE CHANGE	9.62	8.78	12.21	12.31	11.17	9.68	10.39	10.71	10.81	10.79
3											
4	MANUFACTURING	17489.	18597.	21004.	23433.	25765.	27969.	30607.	33630.	36849.	40329.
5	PERCENTAGE CHANGE	13.54	6.34	12.94	11.56	9.95	8.55	9.43	9.88	9.57	9.44
6											
7	DURABLE GOODS	7533.	7932.	8849.	9996.	11122.	12117.	13358.	14823.	16413.	18143.
8	PERCENTAGE CHANGE	12.24	5.29	11.56	12.96	11.26	8.94	10.24	10.97	10.73	10.54
9											
10	NONDURABLE GOODS	9956.	10665.	12155.	13437.	14643.	15852.	17250.	18807.	20436.	22185.
11	PERCENTAGE CHANGE	14.54	7.13	13.97	10.55	8.98	8.26	8.81	9.03	8.66	8.56
12											
13	CONSTRUCTION	1856.	2000.	2311.	2724.	3067.	3353.	3757.	4247.	4807.	5433.
14	PERCENTAGE CHANGE	2.94	7.72	15.54	17.87	12.62	9.31	12.06	13.04	13.20	13.03
15											
16	MINING	706.	782.	888.	1009.	1187.	1404.	1738.	2017.	2343.	2728.
17	PERCENTAGE CHANGE	49.77	10.90	13.54	13.59	17.62	18.25	23.80	16.09	16.14	16.44
18											
19	TRADE	7696.	8443.	9422.	10712.	11936.	13009.	14077.	15335.	16828.	18545.
20	PERCENTAGE CHANGE	4.80	9.70	11.60	13.68	11.43	8.99	8.21	8.94	9.74	10.20
21											
22	SERVICES	5965.	6753.	7721.	8694.	9842.	10941.	12168.	13594.	15210.	17057.
23	PERCENTAGE CHANGE	14.16	13.21	14.33	12.60	13.21	11.16	11.22	11.71	11.89	12.15
24											
25	FINANCE, INSURANCE & REAL ESTATE	5840.	6361.	6998.	7838.	8780.	9557.	10593.	11696.	12920.	14251.
26	PERCENTAGE CHANGE	2.69	8.93	10.02	12.00	12.02	8.85	10.83	10.42	10.47	10.30
27											
28	TRANS., COMM. & PUBLIC UTILITIES	3951.	4428.	4990.	5723.	6421.	7148.	7956.	8921.	9984.	11184.
29	PERCENTAGE CHANGE	6.97	12.07	12.70	14.69	12.19	11.33	11.30	12.13	11.92	12.03
30											
31	GOVERNMENT	5932.	6444.	7099.	7841.	8664.	9683.	10845.	12165.	13681.	15295.
32	PERCENTAGE CHANGE	8.84	8.64	10.16	10.47	10.49	11.75	12.01	12.17	12.46	11.80
33											
34	FEDERAL	2281.	2480.	2726.	3016.	3339.	3756.	4215.	4729.	5322.	5958.
35	PERCENTAGE CHANGE	9.42	8.74	9.91	10.64	10.71	12.47	12.23	12.20	12.54	11.94
36											
37	STATE & LOCAL	3651.	3964.	4372.	4825.	5325.	5927.	6630.	7436.	8359.	9337.
38	PERCENTAGE CHANGE	8.48	8.58	10.31	10.36	10.36	11.30	11.87	12.16	12.41	11.70
39											
40	AGRICULTURE	847.	889.	943.	960.	971.	988.	1042.	1116.	1205.	1290.
41	PERCENTAGE CHANGE	6.77	4.95	6.05	1.76	1.13	1.75	5.54	7.05	8.02	7.07
42											
43	PER CAPITA GROSS STATE PRODUCT ($)	10818.	11611.	12835.	14230.	15656.	17015.	18595.	20398.	22397.	24562.
44	PERCENTAGE CHANGE	8.53	7.33	10.54	10.87	10.02	8.68	9.28	9.70	9.80	9.67

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 3: TENNESSEE DURABLE GOODS MANUFACTURING GROSS PRODUCT
(Millions of Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TOTAL DURABLE GOODS	7533.	7932.	8849.	9996.	11122.	12117.	13358.	14823.	16413.	18143.
2	PERCENTAGE CHANGE	12.24	5.29	11.56	12.96	11.26	8.94	10.24	10.97	10.73	10.54
3											
4	LUMBER AND WOOD PRODUCTS	340.	369.	440.	546.	621.	659.	753.	874.	991.	1130.
5	PERCENTAGE CHANGE	6.62	8.49	19.22	24.16	13.61	6.23	14.27	15.98	13.48	13.99
6											
7	FURNITURE AND FIXTURES	479.	504.	569.	619.	677.	729.	801.	887.	976.	1089.
8	PERCENTAGE CHANGE	18.04	5.35	12.93	8.68	9.36	7.64	10.00	10.69	9.98	11.66
9											
10	STONE, CLAY AND GLASS	581.	629.	711.	811.	900.	973.	1080.	1195.	1324.	1475.
11	PERCENTAGE CHANGE	15.25	8.27	13.07	14.09	10.95	8.06	11.03	10.66	10.74	11.46
12											
13	PRIMARY METALS	906.	981.	1112.	1264.	1424.	1569.	1743.	1974.	2218.	2477.
14	PERCENTAGE CHANGE	18.37	8.24	13.33	13.71	12.60	10.21	11.07	13.27	12.39	11.64
15											
16	FABRICATED METAL PRODUCTS	1094.	1152.	1300.	1451.	1631.	1797.	1997.	2205.	2444.	2722.
17	PERCENTAGE CHANGE	10.54	5.23	12.89	11.58	12.39	10.23	11.09	10.44	10.83	11.40
18											
19	NONELECTRICAL MACHINERY	1478.	1528.	1680.	1872.	2065.	2237.	2428.	2646.	2899.	3143.
20	PERCENTAGE CHANGE	10.79	3.33	9.98	11.45	10.27	8.33	8.55	8.97	9.58	8.43
21											
22	ELECTRICAL MACHINERY	1416.	1458.	1600.	1794.	1983.	2161.	2349.	2596.	2848.	3124.
23	PERCENTAGE CHANGE	15.09	2.97	9.75	12.09	10.54	9.01	8.69	10.50	9.71	9.68
24											
25	TRANSPORTATION EQUIPMENT	832.	879.	968.	1119.	1250.	1362.	1507.	1677.	1867.	2053.
26	PERCENTAGE CHANGE	9.08	5.64	10.22	15.59	11.64	8.98	10.69	11.27	11.29	9.99
27											
28	OTHER DURABLE GOODS	406.	433.	468.	519.	573.	630.	699.	769.	846.	929.
29	PERCENTAGE CHANGE	1.65	6.43	8.13	10.96	10.43	9.86	10.95	10.05	10.06	9.80
30											

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 4: TENNESSEE NONDURABLE GOODS MANUFACTURING GROSS PRODUCT
(Millions of Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	NONDURABLE GOODS	9956.	10665.	12155.	13437.	14643.	15852.	17250.	18807.	20436.	22185.
2	PERCENTAGE CHANGE	14.54	7.13	13.97	10.55	8.98	8.26	8.81	9.03	8.66	8.56
3											
4	FOOD	1830.	1987.	2270.	2472.	2661.	2869.	3105.	3361.	3621.	3918.
5	PERCENTAGE CHANGE	12.85	8.58	14.25	8.90	7.65	7.85	8.21	8.24	7.75	8.19
6											
7	TEXTILES	513.	560.	648.	709.	769.	816.	892.	975.	1060.	1169.
8	PERCENTAGE CHANGE	9.44	9.12	15.84	9.38	8.44	6.06	9.31	9.35	8.69	10.33
9											
10	APPAREL	1052.	1143.	1328.	1461.	1591.	1719.	1896.	2079.	2274.	2467.
11	PERCENTAGE CHANGE	5.27	8.57	16.25	9.96	8.95	8.05	10.25	9.68	9.35	8.49
12											
13	PAPER	1020.	1106.	1242.	1364.	1478.	1598.	1702.	1825.	1977.	2134.
14	PERCENTAGE CHANGE	25.40	8.47	12.31	9.82	8.32	8.13	6.50	7.26	8.33	7.95
15											
16	PRINTING AND PUBLISHING	745.	809.	908.	998.	1092.	1203.	1304.	1408.	1521.	1631.
17	PERCENTAGE CHANGE	13.94	8.58	12.25	9.88	9.36	10.17	8.44	7.98	8.01	7.21
18											
19	CHEMICALS	3216.	3370.	3812.	4271.	4683.	5050.	5495.	6022.	6583.	7179.
20	PERCENTAGE CHANGE	14.67	4.78	13.12	12.04	9.63	7.85	8.81	9.60	9.31	9.06
21											
22	RUBBER AND PLASTICS	912.	972.	1106.	1241.	1364.	1503.	1667.	1842.	2019.	2206.
23	PERCENTAGE CHANGE	18.63	6.62	13.71	12.20	9.90	10.23	10.93	10.49	9.62	9.25
24											
25	OTHER NONDURABLE GOODS	668.	719.	840.	921.	1007.	1094.	1189.	1295.	1381.	1482.
26	PERCENTAGE CHANGE	18.96	7.68	16.85	9.67	9.27	8.71	8.70	8.85	6.68	7.27

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 5: TENNESSEE GROSS STATE PRODUCT BY SECTOR
(Millions of 1972 Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	GROSS STATE PRODUCT	26910.5	27017.2	28068.5	29236.7	30184.3	30710.5	31596.3	32636.4	33735.8	34882.0
2	PERCENTAGE CHANGE	0.84	0.40	3.89	4.16	3.24	1.74	2.88	3.29	3.37	3.40
3											
4	MANUFACTURING	9935.0	9931.5	10507.6	10958.2	11310.9	11462.7	11761.1	12134.9	12513.7	12872.8
5	PERCENTAGE CHANGE	5.18	-0.04	5.80	4.29	3.22	1.34	2.60	3.18	3.12	2.87
6											
7	DURABLE GOODS	4145.8	4112.1	4372.4	4599.7	4765.9	4820.6	4950.3	5118.0	5288.3	5449.2
8	PERCENTAGE CHANGE	4.95	-0.81	6.33	5.20	3.61	1.15	2.69	3.39	3.33	3.04
9											
10	NONDURABLE GOODS	5789.2	5819.4	6135.2	6358.4	6545.0	6642.1	6810.8	7016.9	7225.4	7423.6
11	PERCENTAGE CHANGE	5.34	0.52	5.43	3.64	2.93	1.48	2.54	3.03	2.97	2.74
12											
13	CONSTRUCTION	794.7	793.9	865.4	948.0	987.2	992.2	1021.2	1058.0	1098.3	1139.3
14	PERCENTAGE CHANGE	-3.01	-0.10	9.01	9.54	4.13	0.51	2.92	3.60	3.81	3.74
15											
16	MINING	128.1	133.0	138.8	143.1	146.7	145.4	147.7	151.3	154.7	158.4
17	PERCENTAGE CHANGE	16.04	3.80	4.37	3.12	2.51	-0.90	1.61	2.40	2.29	2.36
18											
19	TRADE	4133.2	4177.5	4324.2	4548.4	4704.7	4816.4	4975.8	5135.5	5321.8	5539.1
20	PERCENTAGE CHANGE	-2.31	1.07	3.51	5.19	3.43	2.38	3.31	3.21	3.63	4.08
21											
22	SERVICES	2809.8	2830.3	2900.4	3006.1	3112.6	3169.3	3258.8	3371.5	3490.9	3626.1
23	PERCENTAGE CHANGE	0.65	0.73	2.48	3.64	3.54	1.82	2.82	3.46	3.54	3.87
24											
25	FINANCE, INSURANCE & REAL ESTATE	3329.3	3346.1	3433.9	3583.9	3712.5	3800.1	3953.9	4112.6	4269.8	4436.8
26	PERCENTAGE CHANGE	-2.93	0.50	2.63	4.37	3.59	2.36	4.05	4.01	3.82	3.91
27											
28	TRANS., COMM. & PUBLIC UTILITIES	2189.3	2212.6	2267.9	2358.7	2451.6	2518.5	2590.0	2692.5	2809.0	2932.2
29	PERCENTAGE CHANGE	-3.67	1.06	2.50	4.00	3.94	2.73	2.84	3.96	4.33	4.39
30											
31	GOVERNMENT	3167.5	3161.3	3194.4	3236.6	3294.1	3337.3	3401.4	3473.1	3544.6	3616.9
32	PERCENTAGE CHANGE	-0.18	-0.20	1.05	1.32	1.78	1.31	1.92	2.11	2.06	2.04
33											
34	FEDERAL	1252.5	1251.8	1262.7	1281.7	1307.4	1333.3	1361.8	1391.1	1421.0	1452.1
35	PERCENTAGE CHANGE	0.41	-0.05	0.87	1.51	2.01	1.98	2.14	2.15	2.15	2.19
36											
37	STATE & LOCAL	1915.1	1909.5	1931.7	1954.9	1986.7	2004.0	2039.5	2082.0	2123.5	2164.8
38	PERCENTAGE CHANGE	-0.56	-0.29	1.16	1.20	1.63	0.87	1.77	2.08	1.99	1.94
39											
40	AGRICULTURE	423.5	431.1	435.9	453.7	464.0	468.5	486.3	507.0	533.1	560.4
41	PERCENTAGE CHANGE	2.94	1.78	1.11	4.08	2.29	0.97	3.80	4.26	5.15	5.12
42											
43	PER CAPITA GROSS STATE PRODUCT ($)	5790.	5735.	5870.	6035.	6167.	6217.	6332.	6481.	6638.	6794.
44	PERCENTAGE CHANGE	-0.16	-0.95	2.35	2.82	2.18	0.82	1.85	2.35	2.42	2.35

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 6: TENNESSEE DURABLE GOODS MANUFACTURING GROSS PRODUCT
(Millions of 1972 Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TOTAL DURABLE GOODS	4145.8	4112.1	4372.4	4599.7	4765.9	4820.6	4950.3	5118.0	5288.3	5449.2
2	PERCENTAGE CHANGE	4.95	-0.81	6.33	5.20	3.61	1.15	2.69	3.39	3.33	3.04
3											
4	LUMBER AND WOOD PRODUCTS	167.0	167.0	185.2	203.7	213.2	206.4	210.5	218.6	223.9	230.6
5	PERCENTAGE CHANGE	1.60	0.0	10.89	9.99	4.67	-3.18	1.97	3.85	2.46	2.98
6											
7	FURNITURE AND FIXTURES	289.9	289.6	315.0	327.1	336.7	337.6	348.4	360.0	369.0	384.5
8	PERCENTAGE CHANGE	10.32	-0.10	8.74	3.85	2.94	0.26	3.21	3.32	2.49	4.21
9											
10	STONE, CLAY AND GLASS	304.3	304.0	328.5	350.9	361.7	359.4	369.7	380.6	391.5	403.8
11	PERCENTAGE CHANGE	6.25	-0.10	8.06	6.83	3.06	-0.64	2.86	2.95	2.89	3.14
12											
13	PRIMARY METALS	377.2	377.2	400.1	421.3	438.7	441.1	450.9	466.6	482.0	494.1
14	PERCENTAGE CHANGE	9.30	0.00	6.08	5.29	4.14	0.54	2.22	3.47	3.30	2.51
15											
16	FABRICATED METAL PRODUCTS	556.7	551.1	589.4	620.8	647.1	657.0	673.7	699.4	725.4	751.0
17	PERCENTAGE CHANGE	0.76	-1.01	6.96	5.32	4.23	1.53	2.55	3.82	3.72	3.53
18											
19	NONELECTRICAL MACHINERY	827.3	812.6	858.1	895.9	923.0	944.2	971.6	1005.2	1044.0	1072.9
20	PERCENTAGE CHANGE	5.64	-1.78	5.60	4.41	3.02	2.30	2.90	3.46	3.85	2.77
21											
22	ELECTRICAL MACHINERY	881.1	867.9	914.5	950.6	981.6	997.0	1018.8	1048.4	1079.6	1107.7
23	PERCENTAGE CHANGE	8.93	-1.50	5.36	3.95	3.26	1.57	2.19	2.91	2.97	2.60
24											
25	TRANSPORTATION EQUIPMENT	477.1	477.0	505.6	543.4	570.6	579.7	599.1	621.6	646.4	668.7
26	PERCENTAGE CHANGE	0.72	-0.01	5.98	7.48	5.00	1.61	3.34	3.76	3.99	3.45
27											
28	OTHER DURABLE GOODS	265.1	265.6	276.2	286.0	293.4	298.3	307.7	317.6	326.4	336.0
29	PERCENTAGE CHANGE	-3.00	0.21	3.96	3.58	2.59	1.66	3.14	3.23	2.78	2.93

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 7: TENNESSEE NONDURABLE GOODS MANUFACTURING GROSS PRODUCT
(Millions of 1972 Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TOTAL NONDURABLE GOODS	5789.2	5819.4	6135.2	6358.4	6545.0	6642.1	6810.8	7016.9	7225.4	7423.6
2	PERCENTAGE CHANGE	5.34	0.52	5.43	3.64	2.93	1.48	2.54	3.03	2.97	2.74
3											
4	FOOD	1099.5	1116.0	1174.2	1210.4	1243.3	1268.0	1297.5	1328.8	1358.3	1393.7
5	PERCENTAGE CHANGE	4.30	1.50	5.21	3.08	2.72	1.99	2.33	2.42	2.22	2.61
6											
7	TEXTILES	303.3	308.6	328.8	338.7	347.4	345.3	353.1	362.2	371.3	383.0
8	PERCENTAGE CHANGE	1.74	1.72	6.56	3.01	2.56	-0.58	2.25	2.57	2.52	3.14
9											
10	APPAREL	720.9	733.9	783.2	808.3	827.1	833.9	860.5	890.0	917.1	937.1
11	PERCENTAGE CHANGE	-1.94	1.80	6.72	3.20	2.32	0.82	3.19	3.44	3.04	2.18
12											
13	PAPER	489.7	490.0	512.9	533.5	550.5	560.0	572.7	590.3	610.8	627.7
14	PERCENTAGE CHANGE	13.23	0.06	4.66	4.02	3.19	1.72	2.27	3.06	3.47	2.78
15											
16	PRINTING AND PUBLISHING	383.2	387.0	400.7	417.3	430.1	440.4	450.7	464.2	479.8	492.1
17	PERCENTAGE CHANGE	5.04	1.00	3.54	4.14	3.07	2.39	2.34	3.00	3.38	2.55
18											
19	CHEMICALS	1866.5	1850.5	1943.9	2022.3	2083.9	2111.2	2164.2	2233.0	2307.4	2378.8
20	PERCENTAGE CHANGE	5.49	-0.86	5.05	4.03	3.05	1.31	2.51	3.18	3.33	3.09
21											
22	RUBBER AND PLASTICS	558.2	563.8	600.7	627.6	649.0	661.3	679.2	700.8	723.0	742.1
23	PERCENTAGE CHANGE	9.70	1.00	6.54	4.48	3.42	1.89	2.70	3.18	3.18	2.64
24											
25	OTHER NONDURABLE GOODS	367.8	369.6	390.9	400.4	413.7	422.0	433.0	447.7	457.6	469.1
26	PERCENTAGE CHANGE	10.50	0.48	5.76	2.43	3.34	2.00	2.60	3.39	2.23	2.51

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 8: TENNESSEE EMPLOYMENT BY SECTOR
(Thousands)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	NONAGRICULTURAL JOBS *	1718.2	1716.0	1757.0	1803.0	1831.9	1847.6	1879.5	1909.8	1943.5	1979.1
2	PERCENTAGE CHANGE	-0.87	-0.13	2.39	2.62	1.61	0.86	1.73	1.61	1.76	1.83
3											
4	MANUFACTURING	512.5	512.9	523.4	533.4	540.6	543.9	547.0	550.9	555.7	560.3
5	PERCENTAGE CHANGE	1.66	0.08	2.05	1.92	1.34	0.61	0.57	0.72	0.87	0.83
6											
7	CONSTRUCTION	70.2	68.6	74.0	81.1	83.5	83.1	86.2	88.2	90.8	93.4
8	PERCENTAGE CHANGE	-8.60	-2.29	7.90	9.52	3.00	-0.49	3.76	2.31	2.94	2.84
9											
10	MINING	10.5	10.7	11.0	11.2	11.3	11.4	11.5	11.6	11.6	11.6
11	PERCENTAGE CHANGE	16.72	2.04	2.34	1.96	1.40	0.37	1.40	0.68	-0.13	0.27
12											
13	TRADE	367.3	365.8	377.5	390.0	398.1	404.2	414.2	422.8	433.0	444.1
14	PERCENTAGE CHANGE	-2.46	-0.41	3.20	3.29	2.08	1.54	2.48	2.07	2.42	2.55
15											
16	SERVICES	293.9	296.9	305.8	315.6	323.6	328.3	336.1	344.0	352.2	361.3
17	PERCENTAGE CHANGE	1.90	1.03	3.00	3.21	2.53	1.45	2.39	2.35	2.39	2.57
18											
19	FINANCE, INSURANCE & REAL ESTATE	76.0	76.3	78.2	80.6	81.9	82.8	84.9	86.9	88.9	91.1
20	PERCENTAGE CHANGE	-2.55	0.32	2.60	2.98	1.67	1.11	2.46	2.38	2.34	2.47
21											
22	TRANS., COMM. & PUBLIC UTILITIES	81.8	81.0	82.9	84.1	85.0	85.4	86.1	87.1	88.4	89.8
23	PERCENTAGE CHANGE	-4.49	-0.98	2.44	1.39	1.10	0.50	0.80	1.17	1.43	1.58
24											
25	GOVERNMENT	306.0	303.9	304.1	307.0	307.9	308.5	313.4	318.2	322.8	327.4
26	PERCENTAGE CHANGE	-2.76	-0.70	0.07	0.96	0.29	0.18	1.59	1.55	1.43	1.44
27											
28	FEDERAL, CIVILIAN	72.6	71.7	71.5	72.2	72.8	73.3	74.8	76.4	78.0	79.7
29	PERCENTAGE CHANGE	-2.13	-1.22	-0.36	1.01	0.81	0.73	2.07	2.09	2.11	2.18
30											
31	STATE & LOCAL	233.4	232.2	232.6	234.8	235.1	235.2	238.6	241.9	244.8	247.7
32	PERCENTAGE CHANGE	-2.95	-0.53	0.20	0.94	0.14	0.01	1.44	1.38	1.21	1.20
33											
34	AGRICULTURAL JOBS *	97.1	93.9	91.2	88.7	86.3	84.1	82.1	80.4	79.1	77.8
35	PERCENTAGE CHANGE	-3.88	-3.24	-2.93	-2.73	-2.66	-2.64	-2.36	-2.01	-1.70	-1.54
36											
37	TOTAL EMPLOYMENT (THOUS. PERSONS) *	1870.0	1871.7	1907.7	1946.5	1969.7	1981.2	2011.0	2043.2	2079.8	2118.7
38	PERCENTAGE CHANGE	0.00	0.09	1.92	2.03	1.19	0.58	1.51	1.60	1.79	1.87
39											
40	UNEMPLOYMENT (THOUS. PERSONS)	173.3	183.1	169.2	154.3	152.4	160.4	152.3	145.3	136.0	126.2
41	PERCENTAGE CHANGE	19.54	5.63	-7.61	-8.79	-1.21	5.23	-5.07	-4.60	-6.39	-7.17
42											
43	UNEMPLOYMENT RATE (PERCENT)	8.5	8.9	8.1	7.3	7.2	7.5	7.0	6.6	6.1	5.6
44											
45	CIVILIAN LABOR FORCE (THOUS. PERSONS)	2043.4	2054.8	2076.9	2100.8	2122.1	2141.6	2163.3	2188.5	2215.8	2244.9
46	PERCENTAGE CHANGE	1.41	0.56	1.07	1.15	1.02	0.92	1.01	1.17	1.25	1.31

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

* Total agricultural and nonagricultural jobs does not add up to total employed workers because of workers commuting across state boundaries, multiple job-holders, the inclusion of self-employed workers, and unpaid family workers in nonagricultural establishments.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 9: TENNESSEE DURABLE GOODS MANUFACTURING EMPLOYMENT
(Thousands of Jobs)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TOTAL DURABLE GOODS	226.5	225.3	231.2	237.9	242.4	244.3	245.7	247.9	250.9	253.6
2	PERCENTAGE CHANGE	1.02	-0.52	2.60	2.93	1.89	0.77	0.57	0.90	1.19	1.09
3											
4	LUMBER AND WOOD PRODUCTS	18.6	18.7	19.3	20.0	20.1	19.8	19.9	20.4	20.6	20.8
5	PERCENTAGE CHANGE	-0.80	0.07	3.60	3.36	0.54	-1.63	0.85	2.16	1.10	1.03
6											
7	FURNITURE AND FIXTURES	24.0	23.6	23.9	23.9	24.1	24.3	24.2	24.3	24.1	24.1
8	PERCENTAGE CHANGE	7.15	-1.54	1.27	-0.21	0.88	0.98	-0.60	0.38	-0.65	0.10
9											
10	STONE, CLAY AND GLASS	14.3	14.5	14.9	15.2	15.5	15.6	15.7	15.9	16.1	16.2
11	PERCENTAGE CHANGE	2.28	1.01	2.72	2.56	1.76	0.66	0.86	0.97	1.00	1.07
12											
13	PRIMARY METALS	19.7	19.7	20.3	20.9	21.3	21.4	21.4	21.6	22.0	22.0
14	PERCENTAGE CHANGE	-0.23	0.00	3.24	2.83	2.21	0.29	0.26	0.94	1.80	0.00
15											
16	FABRICATED METAL PRODUCTS	32.2	31.6	32.2	33.1	34.1	34.6	35.0	35.4	36.0	36.5
17	PERCENTAGE CHANGE	-3.75	-1.85	1.61	2.84	3.11	1.39	1.14	1.27	1.54	1.43
18											
19	NONELECTRICAL MACHINERY	35.0	34.7	35.9	37.0	37.7	38.2	38.2	38.0	38.5	39.0
20	PERCENTAGE CHANGE	0.06	-1.04	3.71	2.88	1.96	1.22	0.20	-0.56	1.31	1.32
21											
22	ELECTRICAL MACHINERY	42.5	42.9	43.9	44.8	45.7	46.1	46.4	47.0	47.7	48.4
23	PERCENTAGE CHANGE	6.83	0.82	2.35	2.18	1.86	0.88	0.67	1.35	1.55	1.45
24											
25	TRANSPORTATION EQUIPMENT	22.7	22.4	23.2	25.2	25.9	26.2	26.5	26.9	27.3	27.7
26	PERCENTAGE CHANGE	-1.88	-1.33	3.70	8.86	2.66	1.20	1.18	1.33	1.53	1.52
27											
28	OTHER DURABLE GOODS	17.4	17.4	17.6	17.8	18.0	18.2	18.3	18.4	18.6	18.8
29	PERCENTAGE CHANGE	-2.73	-0.34	1.28	1.52	1.06	0.86	0.54	0.65	0.84	1.12

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 10: TENNESSEE NONDURABLE GOODS MANUFACTURING EMPLOYMENT
(Thousands of Jobs)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TOTAL NONDURABLE GOODS	286.0	287.6	292.2	295.5	298.2	299.6	301.3	303.0	304.9	306.7
2	PERCENTAGE CHANGE	2.18	0.55	1.62	1.12	0.90	0.48	0.56	0.57	0.61	0.61
3											
4	FOOD	39.1	39.4	39.8	40.1	40.4	40.7	41.0	41.2	41.5	41.7
5	PERCENTAGE CHANGE	0.85	0.74	0.85	0.82	0.78	0.72	0.68	0.66	0.63	0.63
6											
7	TEXTILES	27.2	27.3	28.0	28.1	28.4	28.6	28.7	28.8	28.9	29.1
8	PERCENTAGE CHANGE	0.59	0.40	2.61	0.47	0.92	0.68	0.37	0.33	0.41	0.62
9											
10	APPAREL	69.1	69.0	70.3	70.6	70.6	70.7	70.8	70.8	70.8	70.9
11	PERCENTAGE CHANGE	0.56	-0.07	1.88	0.38	0.07	0.07	0.10	0.03	0.08	0.12
12											
13	PAPER	19.8	20.3	20.8	21.2	21.7	21.9	22.1	22.4	22.7	23.1
14	PERCENTAGE CHANGE	9.96	2.49	2.41	2.23	1.95	1.01	1.07	1.28	1.49	1.46
15											
16	PRINTING AND PUBLISHING	27.4	28.2	28.6	29.2	29.8	30.2	30.5	30.9	31.4	31.8
17	PERCENTAGE CHANGE	3.70	2.85	1.63	2.13	1.86	1.35	1.14	1.28	1.54	1.44
18											
19	CHEMICALS	57.6	56.7	56.9	57.5	57.9	57.8	58.0	58.2	58.3	58.5
20	PERCENTAGE CHANGE	-0.97	-1.70	0.40	1.02	0.80	-0.15	0.31	0.27	0.28	0.23
21											
22	RUBBER AND PLASTICS	21.2	21.6	22.3	23.0	23.4	23.7	24.1	24.4	24.8	25.1
23	PERCENTAGE CHANGE	3.09	1.87	3.18	3.13	1.86	1.16	1.53	1.46	1.44	1.26
24											
25	OTHER NONDURABLE GOODS	24.6	25.1	25.6	25.8	26.0	26.1	26.2	26.3	26.4	26.5
26	PERCENTAGE CHANGE	10.72	2.20	1.82	0.78	0.70	0.39	0.44	0.55	0.36	0.40

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 11: TENNESSEE AVERAGE ANNUAL WAGE AND SALARY BY SECTOR
(Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	ALL SECTORS	14025.	15345.	16785.	18468.	20286.	22335.	24468.	26814.	29414.	32300.
2	PERCENTAGE CHANGE	9.11	9.41	9.38	10.03	9.84	10.10	9.55	9.58	9.70	9.81
3											
4	MANUFACTURING	15142.	16438.	17951.	19731.	21712.	23959.	26291.	28906.	31799.	35016.
5	PERCENTAGE CHANGE	9.33	8.56	9.20	9.91	10.04	10.35	9.73	9.95	10.01	10.11
6											
7	DURABLE GOODS	15280.	16642.	18125.	19874.	21920.	24212.	26626.	29332.	32357.	35673.
8	PERCENTAGE CHANGE	9.25	8.91	8.92	9.65	10.30	10.46	9.97	10.16	10.31	10.25
9											
10	NONDURABLE GOODS	15033.	16279.	17813.	19615.	21543.	23752.	26017.	28558.	31341.	34473.
11	PERCENTAGE CHANGE	9.40	8.29	9.42	10.12	9.83	10.25	9.54	9.77	9.75	9.99
12											
13	CONSTRUCTION	15830.	17313.	19027.	21047.	23308.	25888.	28573.	31607.	34982.	38758.
14	PERCENTAGE CHANGE	10.41	9.37	9.90	10.62	10.74	11.07	10.37	10.62	10.68	10.79
15											
16	MINING	20754.	23027.	25674.	28426.	31523.	35174.	38951.	42692.	47244.	52518.
17	PERCENTAGE CHANGE	9.04	10.95	11.49	10.72	10.89	11.58	10.74	9.60	10.66	11.16
18											
19	TRADE	11440.	12515.	13819.	15276.	16843.	18571.	20328.	22264.	24375.	26694.
20	PERCENTAGE CHANGE	9.36	9.40	10.42	10.54	10.26	10.25	9.46	9.52	9.48	9.51
21											
22	SERVICES	12259.	13487.	14579.	15931.	17325.	18883.	20497.	22286.	24250.	26417.
23	PERCENTAGE CHANGE	7.45	10.02	8.10	9.27	8.75	9.00	8.55	8.72	8.82	8.93
24											
25	FINANCE, INSURANCE & REAL ESTATE	15367.	16817.	18530.	20456.	22543.	24827.	27139.	29769.	32713.	35988.
26	PERCENTAGE CHANGE	10.49	9.43	10.19	10.39	10.20	10.13	9.31	9.69	9.89	10.01
27											
28	TRANS., COMM. & PUBLIC UTILITIES	21038.	22700.	24953.	27891.	30762.	34188.	37750.	41483.	45807.	50734.
29	PERCENTAGE CHANGE	12.69	7.90	9.92	11.78	10.29	11.14	10.42	9.89	10.42	10.76
30											
31	GOVERNMENT	14763.	16367.	17842.	19528.	21393.	23506.	25829.	28297.	31067.	34156.
32	PERCENTAGE CHANGE	7.76	10.86	9.01	9.45	9.55	9.87	9.88	9.55	9.79	9.94
33											
34	FEDERAL, CIVILIAN	21802.	24072.	26499.	29145.	31996.	35199.	38694.	42312.	46254.	50677.
35	PERCENTAGE CHANGE	10.90	10.41	10.08	9.98	9.78	10.01	9.93	9.35	9.32	9.56
36											
37	STATE & LOCAL	12573.	13986.	15182.	16571.	18111.	19860.	21794.	23870.	26228.	28840.
38	PERCENTAGE CHANGE	5.99	11.24	8.55	9.15	9.30	9.66	9.74	9.53	9.88	9.96
39											
40	AGRICULTURE	5152.	5551.	6167.	6732.	7335.	8054.	8835.	9556.	10353.	11296.
41	PERCENTAGE CHANGE	6.93	7.74	11.11	9.15	8.97	9.81	9.70	8.16	8.35	9.10

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 12: TENNESSEE DURABLE GOODS MANUFACTURING AVERAGE ANNUAL WAGE AND SALARY (Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TOTAL DURABLE GOODS	15280.	16642.	18125.	19874.	21920.	24212.	26626.	29332.	32357.	35673.
2	PERCENTAGE CHANGE	9.25	8.91	8.92	9.65	10.30	10.46	9.97	10.16	10.31	10.25
3											
4	LUMBER AND WOOD PRODUCTS	10745.	11577.	12533.	13887.	15680.	17677.	19415.	21062.	23310.	25778.
5	PERCENTAGE CHANGE	7.61	7.74	8.25	10.81	12.91	12.74	9.83	8.49	10.67	10.59
6											
7	FURNITURE AND FIXTURES	11288.	12456.	13789.	15141.	16635.	18280.	20158.	22223.	24425.	27092.
8	PERCENTAGE CHANGE	13.66	10.34	10.70	9.81	9.86	9.89	10.27	10.25	9.91	10.92
9											
10	STONE, CLAY AND GLASS	19007.	20784.	22749.	25158.	27898.	30912.	34152.	37731.	41854.	46323.
11	PERCENTAGE CHANGE	8.82	9.35	9.46	10.59	10.89	10.80	10.48	10.48	10.93	10.68
12											
13	PRIMARY METALS	19264.	20771.	22443.	24521.	26796.	29432.	32191.	35269.	38680.	42706.
14	PERCENTAGE CHANGE	9.40	7.82	8.05	9.26	9.28	9.84	9.37	9.56	9.67	10.41
15											
16	FABRICATED METAL PRODUCTS	15747.	16984.	18418.	20237.	22129.	24181.	26168.	28557.	31218.	34071.
17	PERCENTAGE CHANGE	8.75	7.86	8.45	9.88	9.35	9.28	8.22	9.13	9.32	9.14
18											
19	NONELECTRICAL MACHINERY	17760.	19244.	20831.	22804.	25094.	27746.	30729.	34267.	37870.	41870.
20	PERCENTAGE CHANGE	10.60	8.36	8.24	9.47	10.05	10.57	10.75	11.52	10.51	10.56
21											
22	ELECTRICAL MACHINERY	14161.	15605.	17058.	18711.	20542.	22862.	25437.	28136.	31246.	34601.
23	PERCENTAGE CHANGE	7.54	10.20	9.31	9.69	9.79	11.29	11.26	10.61	11.06	10.74
24											
25	TRANSPORTATION EQUIPMENT	16802.	18323.	19955.	21513.	24130.	26653.	29142.	32239.	35507.	38956.
26	PERCENTAGE CHANGE	9.84	9.06	8.91	7.81	12.16	10.46	9.34	10.63	10.14	9.72
27											
28	OTHER DURABLE GOODS	12977.	14230.	15469.	16820.	18305.	19908.	21699.	23726.	25966.	28351.
29	PERCENTAGE CHANGE	10.89	9.65	8.71	8.73	8.82	8.76	8.99	9.34	9.44	9.18

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 13: TENNESSEE NONDURABLE GOODS MANUFACTURING
AVERAGE ANNUAL WAGE AND SALARY
(Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TOTAL NONDURABLE GOODS	15033.	16279.	17813.	19615.	21543.	23752.	26017.	28558.	31341.	34473.
2	PERCENTAGE CHANGE	9.40	8.29	9.42	10.12	9.83	10.25	9.54	9.77	9.75	9.99
3											
4	FOOD	16402.	17882.	19772.	21629.	23526.	25856.	28340.	31304.	34574.	38281.
5	PERCENTAGE CHANGE	10.50	9.02	10.57	9.39	8.77	9.90	9.61	10.46	10.44	10.72
6											
7	TEXTILES	11755.	12781.	14081.	15561.	17234.	18972.	20683.	22517.	24589.	26948.
8	PERCENTAGE CHANGE	8.68	8.72	10.17	10.51	10.75	10.09	9.02	8.87	9.20	9.59
9											
10	APPAREL	9085.	9906.	10930.	12094.	13340.	14855.	16366.	18021.	19946.	22069.
11	PERCENTAGE CHANGE	10.08	9.03	10.34	10.65	10.30	11.36	10.17	10.11	10.68	10.65
12											
13	PAPER	18672.	20274.	21938.	23936.	26151.	28824.	31622.	34628.	37877.	41440.
14	PERCENTAGE CHANGE	7.61	8.58	8.21	9.11	9.42	10.05	9.71	9.50	9.38	9.41
15											
16	PRINTING AND PUBLISHING	12830.	13676.	14980.	16558.	18230.	20023.	21831.	23687.	25739.	27964.
17	PERCENTAGE CHANGE	8.19	6.59	9.53	10.54	10.10	9.83	9.03	8.50	8.66	8.65
18											
19	CHEMICALS	22645.	24470.	26628.	29214.	31863.	34950.	37970.	41519.	45232.	49483.
20	PERCENTAGE CHANGE	9.75	8.06	8.82	9.71	9.07	9.69	8.64	9.35	8.94	9.40
21											
22	RUBBER AND PLASTICS	18969.	20719.	22877.	25426.	28281.	31396.	34784.	38468.	42662.	47385.
23	PERCENTAGE CHANGE	10.73	9.22	10.42	11.14	11.23	11.02	10.79	10.59	10.90	11.07
24											
25	OTHER NONDURABLE GOODS	11463.	12474.	13575.	14827.	16309.	18094.	19900.	21897.	23934.	26337.
26	PERCENTAGE CHANGE	9.67	8.82	8.83	9.22	10.00	10.94	9.98	10.04	9.30	10.04

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 14: TENNESSEE AVERAGE ANNUAL WAGE AND SALARY BY SECTOR
(1972 Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	ALL SECTORS	7229.	7248.	7352.	7507.	7661.	7796.	7957.	8187.	8390.	8620.
2	PERCENTAGE CHANGE	0.62	0.26	1.43	2.11	2.05	1.76	2.07	2.89	2.47	2.75
3											
4	MANUFACTURING	7805.	7765.	7863.	8021.	8199.	8363.	8550.	8826.	9070.	9345.
5	PERCENTAGE CHANGE	0.82	-0.51	1.26	2.01	2.23	1.99	2.24	3.23	2.76	3.03
6											
7	DURABLE GOODS	7876.	7861.	7939.	8079.	8278.	8451.	8659.	8956.	9229.	9520.
8	PERCENTAGE CHANGE	0.75	-0.19	1.00	1.75	2.46	2.09	2.46	3.44	3.05	3.16
9											
10	NONDURABLE GOODS	7749.	7690.	7802.	7974.	8136.	8290.	8461.	8720.	8939.	9200.
11	PERCENTAGE CHANGE	0.88	-0.76	1.47	2.19	2.03	1.90	2.06	3.06	2.52	2.92
12											
13	CONSTRUCTION	8160.	8178.	8334.	8556.	8802.	9036.	9292.	9651.	9978.	10344.
14	PERCENTAGE CHANGE	1.81	0.22	1.91	2.66	2.88	2.65	2.84	3.86	3.39	3.67
15											
16	MINING	10698.	10877.	11246.	11555.	11905.	12277.	12667.	13036.	13475.	14016.
17	PERCENTAGE CHANGE	0.55	1.68	3.39	2.75	3.02	3.13	3.17	2.91	3.37	4.01
18											
19	TRADE	5897.	5912.	6053.	6210.	6361.	6482.	6611.	6798.	6952.	7124.
20	PERCENTAGE CHANGE	0.85	0.25	2.39	2.59	2.43	1.90	1.99	2.84	2.27	2.47
21											
22	SERVICES	6319.	6371.	6386.	6476.	6543.	6591.	6666.	6805.	6917.	7050.
23	PERCENTAGE CHANGE	-0.92	0.82	0.24	1.41	1.03	0.74	1.13	2.09	1.65	1.93
24											
25	FINANCE, INSURANCE & REAL ESTATE	7921.	7944.	8117.	8315.	8513.	8666.	8826.	9090.	9331.	9604.
26	PERCENTAGE CHANGE	1.89	0.28	2.18	2.45	2.38	1.79	1.85	2.99	2.65	2.93
27											
28	TRANS., COMM. & PUBLIC UTILITIES	10844.	10723.	10930.	11338.	11617.	11933.	12276.	12667.	13065.	13540.
29	PERCENTAGE CHANGE	3.92	-1.12	1.93	3.73	2.46	2.72	2.88	3.18	3.15	3.63
30											
31	GOVERNMENT	7610.	7731.	7815.	7938.	8079.	8204.	8400.	8640.	8861.	9116.
32	PERCENTAGE CHANGE	-0.63	1.60	1.09	1.57	1.78	1.55	2.38	2.86	2.56	2.87
33											
34	FEDERAL, CIVILIAN	11238.	11371.	11607.	11848.	12083.	12286.	12583.	12920.	13193.	13525.
35	PERCENTAGE CHANGE	2.27	1.18	2.08	2.07	1.99	1.68	2.42	2.67	2.11	2.52
36											
37	STATE & LOCAL	6481.	6606.	6650.	6736.	6840.	6932.	7087.	7288.	7481.	7697.
38	PERCENTAGE CHANGE	-2.26	1.94	0.66	1.29	1.54	1.35	2.24	2.84	2.64	2.89
39											
40	AGRICULTURE	2656.	2622.	2701.	2736.	2770.	2811.	2873.	2918.	2953.	3015.
41	PERCENTAGE CHANGE	-1.39	-1.27	3.03	1.30	1.23	1.49	2.20	1.55	1.21	2.09

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 15: TENNESSEE DURABLE GOODS MANUFACTURING
AVERAGE ANNUAL WAGE AND SALARY
(1972 Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TOTAL DURABLE GOODS	7876.	7861.	7939.	8079.	8278.	8451.	8659.	8956.	9229.	9520.
2	PERCENTAGE CHANGE	0.75	-0.19	1.00	1.76	2.46	2.09	2.46	3.44	3.05	3.16
3											
4	LUMBER AND WOOD PRODUCTS	5539.	5469.	5490.	5645.	5922.	6170.	6314.	6431.	6649.	6880.
5	PERCENTAGE CHANGE	-0.76	-1.27	0.38	2.84	4.89	4.20	2.33	1.86	3.38	3.47
6											
7	FURNITURE AND FIXTURES	5819.	5884.	6040.	6155.	6282.	6380.	6555.	6786.	6967.	7230.
8	PERCENTAGE CHANGE	4.81	1.12	2.65	1.91	2.06	1.57	2.74	3.51	2.66	3.79
9											
10	STONE, CLAY AND GLASS	9797.	9818.	9965.	10227.	10536.	10790.	11106.	11521.	11938.	12363.
11	PERCENTAGE CHANGE	0.35	0.21	1.50	2.63	3.02	2.41	2.93	3.73	3.62	3.56
12											
13	PRIMARY METALS	9930.	9812.	9831.	9968.	10120.	10273.	10469.	10769.	11032.	11398.
14	PERCENTAGE CHANGE	0.88	-1.19	0.19	1.40	1.52	1.52	1.90	2.87	2.45	3.31
15											
16	FABRICATED METAL PRODUCTS	8117.	8023.	8068.	8227.	8357.	8440.	8510.	8720.	8904.	9093.
17	PERCENTAGE CHANGE	0.29	-1.16	0.56	1.97	1.58	1.00	0.82	2.46	2.12	2.12
18											
19	NONELECTRICAL MACHINERY	9154.	9090.	9124.	9270.	9477.	9684.	9993.	10463.	10802.	11174.
20	PERCENTAGE CHANGE	1.99	-0.70	0.37	1.60	2.23	2.19	3.19	4.71	3.23	3.45
21											
22	ELECTRICAL MACHINERY	7299.	7371.	7472.	7606.	7758.	7980.	8272.	8591.	8912.	9234.
23	PERCENTAGE CHANGE	-0.83	0.99	1.36	1.80	1.99	2.86	3.66	3.86	3.74	3.61
24											
25	TRANSPORTATION EQUIPMENT	8661.	8655.	8741.	8745.	9112.	9303.	9477.	9844.	10128.	10397.
26	PERCENTAGE CHANGE	1.29	-0.06	0.99	0.05	4.20	2.09	1.87	3.87	2.88	2.66
27											
28	OTHER DURABLE GOODS	6689.	6722.	6776.	6838.	6913.	6949.	7057.	7245.	7406.	7566.
29	PERCENTAGE CHANGE	2.26	0.48	0.81	0.91	1.10	0.52	1.55	2.66	2.23	2.16
30											

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 16: TENNESSEE NONDURABLE GOODS MANUFACTURING
AVERAGE ANNUAL WAGE AND SALARY
(1972 Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TOTAL NONDURABLE GOODS	7749.	7690.	7802.	7974.	8136.	8290.	8461.	8720.	8939.	9200.
2	PERCENTAGE CHANGE	0.88	-0.76	1.47	2.19	2.03	1.90	2.06	3.06	2.52	2.92
3											
4	FOOD	8455.	8447.	8660.	8792.	8884.	9025.	9216.	9559.	9861.	10216.
5	PERCENTAGE CHANGE	1.90	-0.09	2.53	1.52	1.05	1.58	2.12	3.71	3.17	3.60
6											
7	TEXTILES	6059.	6037.	6168.	6326.	6508.	6622.	6726.	6875.	7013.	7192.
8	PERCENTAGE CHANGE	0.22	-0.37	2.16	2.56	2.89	1.75	1.57	2.22	2.01	2.54
9											
10	APPAREL	4683.	4679.	4788.	4916.	5038.	5185.	5322.	5503.	5689.	5890.
11	PERCENTAGE CHANGE	1.51	-0.08	2.32	2.69	2.47	2.93	2.65	3.39	3.38	3.53
12											
13	PAPER	9625.	9577.	9609.	9730.	9891.	10061.	10284.	10573.	10804.	11060.
14	PERCENTAGE CHANGE	-0.77	-0.50	0.34	1.26	1.65	1.72	2.21	2.82	2.18	2.37
15											
16	PRINTING AND PUBLISHING	6613.	6460.	6561.	6731.	6885.	6989.	7100.	7233.	7341.	7463.
17	PERCENTAGE CHANGE	-0.23	-2.32	1.57	2.58	2.28	1.51	1.59	1.88	1.50	1.66
18											
19	CHEMICALS	11673.	11559.	11664.	11875.	12033.	12199.	12348.	12678.	12901.	13206.
20	PERCENTAGE CHANGE	1.20	-0.98	0.91	1.82	1.32	1.38	1.22	2.67	1.76	2.36
21											
22	RUBBER AND PLASTICS	9778.	9787.	10021.	10336.	10680.	10959.	11312.	11746.	12168.	12646.
23	PERCENTAGE CHANGE	2.11	0.09	2.39	3.15	3.33	2.61	3.22	3.84	3.60	3.93
24											
25	OTHER NONDURABLE GOODS	5909.	5892.	5946.	6027.	6159.	6316.	6472.	6686.	6876.	7029.
26	PERCENTAGE CHANGE	1.13	-0.28	0.91	1.36	2.19	2.54	2.47	3.32	2.10	2.96

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 17: TENNESSEE PERSONAL INCOME BY COMPONENTS

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TOTAL PERSONAL INCOME (MIL $)	39361.	43281.	48034.	53353.	59220.	65879.	73212.	81160.	90166.	100207.
2	PERCENTAGE CHANGE	10.80	9.96	10.98	11.07	11.00	11.24	11.13	10.86	11.10	11.14
3											
4	WAGES AND SALARIES	24682.	26941.	30131.	33981.	37895.	42052.	46843.	52144.	58195.	65059.
5	PERCENTAGE CHANGE	7.95	9.15	11.84	12.78	11.52	10.97	11.39	11.32	11.60	11.79
6											
7	OTHER LABOR INCOME	2601.	2952.	3397.	3903.	4474.	5049.	5614.	6198.	6904.	7831.
8	PERCENTAGE CHANGE	10.39	13.51	15.06	14.91	14.62	12.86	11.19	10.41	11.38	13.42
9											
10	PROPRIETORS' INCOME	2415.	2648.	2881.	3125.	3354.	3571.	3814.	4074.	4348.	4621.
11	PERCENTAGE CHANGE	13.80	9.64	8.82	8.46	7.34	6.47	6.81	6.80	6.73	6.27
12											
13	PROPERTY INCOME	5726.	6439.	7273.	8260.	9434.	10733.	12056.	13480.	15004.	16757.
14	PERCENTAGE CHANGE	16.90	12.45	12.96	13.57	14.21	13.77	12.33	11.81	11.31	11.68
15											
16	TRANSFER PAYMENTS	6180.	6813.	7234.	7419.	7953.	8912.	9940.	11015.	12276.	13658.
17	PERCENTAGE CHANGE	16.66	10.24	6.17	2.57	7.20	12.06	11.54	10.81	11.45	11.26
18											
19	LESS: PERS. CONT. FOR SOCIAL INS.	1851.	2081.	2396.	2782.	3267.	3742.	4273.	4875.	5578.	6613.
20	PERCENTAGE CHANGE	12.00	12.40	15.11	16.14	17.42	14.53	14.21	14.08	14.41	18.55
21											
22	RESIDENCE ADJUSTMENT	-390.	-429.	-485.	-553.	-623.	-697.	-782.	-876.	-984.	-1106.
23	PERCENTAGE CHANGE	8.54	10.01	13.05	14.01	12.53	11.85	12.23	12.07	12.30	12.43
24											
25	PER CAPITA PERSONAL INCOME ($)	8468.	9187.	10045.	11013.	12099.	13337.	14673.	16117.	17741.	19517.
26	PERCENTAGE CHANGE	9.70	8.49	9.33	9.64	9.85	10.23	10.02	9.84	10.08	10.01
27											
28	TOTAL PERSONAL INCOME (MIL 72 $)	20289.2	20444.6	21040.1	21688.1	22364.0	22994.4	23808.9	24781.8	25717.7	26743.2
29	PERCENTAGE CHANGE	2.17	0.77	2.91	3.08	3.12	2.82	3.54	4.09	3.78	3.99
30											
31	PER CAPITA PERSONAL INCOME (72 $)	4365.	4340.	4400.	4477.	4569.	4655.	4772.	4921.	5060.	5205.
32	PERCENTAGE CHANGE	1.16	-0.58	1.38	1.75	2.05	1.88	2.50	3.13	2.83	2.93
33											
34	TN INDIVIDUAL IRS COLLECTIONS (MIL $)	4436.4	4868.6	5328.1	5854.9	6544.3	7282.2	8093.5	8996.2	9998.4	11113.2
35	PERCENTAGE CHANGE	13.60	9.74	9.44	9.89	11.77	11.27	11.14	11.15	11.14	11.15
36											
37	DISPOSABLE PERSONAL INCOME (MIL $)	34925.	38413.	42706.	47498.	52676.	58597.	65119.	72164.	80168.	89093.
38	PERCENTAGE CHANGE	10.45	9.99	11.18	11.22	10.90	11.24	11.13	10.82	11.09	11.13
39											
40	PER CAPITA DISPOSABLE INCOME ($)	7514.	8154.	8931.	9805.	10762.	11863.	13051.	14330.	15774.	17352.
41	PERCENTAGE CHANGE	9.36	8.52	9.53	9.79	9.76	10.23	10.02	9.80	10.08	10.01
42											
43	DISPOSABLE INCOME (MIL 72 $)	18002.4	18144.9	18706.3	19308.0	19892.6	20452.6	21176.8	22034.9	22865.9	23777.3
44	PERCENTAGE CHANGE	1.86	0.79	3.09	3.22	3.03	2.82	3.54	4.05	3.77	3.99
45											
46	PER CAPITA DISPOSABLE INCOME (72 $)	3873.	3852.	3912.	3986.	4064.	4140.	4244.	4376.	4499.	4631.
47	PERCENTAGE CHANGE	0.84	-0.56	1.56	1.89	1.97	1.88	2.50	3.10	2.82	2.93

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 18: TENNESSEE RETAIL SALES

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	TOTAL (MIL $)	19736.	22186.	24923.	28089.	31363.	34794.	38788.	42622.	47052.	52015.
2	PERCENTAGE CHANGE	12.67	12.41	12.34	12.70	11.66	10.94	11.48	9.88	10.39	10.55
3											
4	AUTOMOTIVE	3834.	4309.	4954.	5670.	6253.	6884.	7571.	8258.	9082.	10017.
5	PERCENTAGE CHANGE	8.41	12.38	14.97	14.45	10.29	10.09	9.98	9.07	9.98	10.30
6											
7	NONAUTOMOTIVE	15901.	17877.	19969.	22419.	25110.	27909.	31217.	34364.	37970.	41998.
8	PERCENTAGE CHANGE	13.75	12.42	11.71	12.27	12.00	11.15	11.85	10.08	10.49	10.61
9											
10											
11	TOTAL (MIL 72 $)	10173.	10480.	10917.	11418.	11844.	12144.	12614.	13014.	13420.	13882.
12	PERCENTAGE CHANGE	3.90	3.02	4.17	4.59	3.73	2.53	3.87	3.17	3.12	3.44
13											
14	AUTOMOTIVE	1976.	2035.	2170.	2305.	2362.	2403.	2462.	2521.	2590.	2673.
15	PERCENTAGE CHANGE	-0.03	2.99	6.61	6.22	2.46	1.75	2.47	2.41	2.73	3.21
16											
17	NONAUTOMOTIVE	8197.	8444.	8747.	9113.	9483.	9742.	10152.	10493.	10830.	11208.
18	PERCENTAGE CHANGE	4.90	3.02	3.59	4.19	4.05	2.73	4.21	3.36	3.21	3.49
19											
20											
21	MOTOR VEHICLE REGISTRATIONS	3085.	3158.	3259.	3360.	3454.	3528.	3613.	3699.	3773.	3847.
22	PERCENTAGE CHANGE	2.11	2.36	3.22	3.09	2.81	2.12	2.42	2.39	2.00	1.96

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 19: TENNESSEE ENERGY CONSUMPTION--SELECTED CATEGORIES

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	ELECTRICITY (MIL. KWH)	51581.	51805.	52594.	53669.	54558.	55490.	56836.	57989.	59195.	60521.
2	PERCENTAGE CHANGE	0.74	0.43	1.52	2.04	1.66	1.71	2.43	2.03	2.08	2.24
3											
4	RESIDENTIAL	26118.	26333.	26592.	27027.	27494.	28304.	28900.	29372.	29943.	30649.
5	PERCENTAGE CHANGE	1.48	0.82	0.98	1.63	1.73	2.95	2.11	1.63	1.94	2.36
6											
7	COMMERCIAL	4374.	4365.	4430.	4569.	4678.	4745.	4889.	5039.	5190.	5322.
8	PERCENTAGE CHANGE	-0.50	-0.22	1.48	3.16	2.37	1.43	3.03	3.07	3.01	2.53
9											
10	INDUSTRIAL	21088.	21107.	21572.	22073.	22386.	22441.	23047.	23578.	24062.	24550.
11	PERCENTAGE CHANGE	0.09	0.09	2.20	2.32	1.42	0.25	2.70	2.30	2.05	2.03
12											
13	TOTAL GAS (MIL. THERMS)	1791.	1766.	1738.	1708.	1673.	1635.	1597.	1569.	1541.	1514.
14	PERCENTAGE CHANGE	0.17	-1.40	-1.61	-1.69	-2.08	-2.25	-2.33	-1.76	-1.76	-1.75
15											
16	RESIDENTIAL	466.	461.	455.	450.	444.	439.	434.	429.	424.	419.
17	PERCENTAGE CHANGE	-1.15	-1.10	-1.20	-1.20	-1.19	-1.19	-1.18	-1.19	-1.18	-1.18
18											
19	COMMERCIAL	342.	338.	332.	325.	311.	295.	278.	271.	264.	258.
20	PERCENTAGE CHANGE	-1.04	-1.24	-1.71	-2.13	-4.18	-5.14	-5.72	-2.49	-2.53	-2.44
21											
22	INDUSTRIAL	983.	968.	951.	934.	917.	901.	885.	869.	853.	838.
23	PERCENTAGE CHANGE	1.23	-1.59	-1.76	-1.77	-1.78	-1.79	-1.79	-1.81	-1.81	-1.82
24											
25	COAL (THOUS. TONS)	20633.	20974.	20939.	21182.	21414.	21526.	21842.	21941.	21294.	20887.
26	PERCENTAGE CHANGE	2.00	1.65	-0.16	1.16	1.09	0.52	1.47	0.45	-2.95	-1.91
27											
28	GASOLINE (MIL. GAL.)	2332.	2296.	2298.	2320.	2356.	2393.	2456.	2503.	2527.	2552.
29	PERCENTAGE CHANGE	-2.38	-1.54	0.06	0.99	1.53	1.59	2.60	1.94	0.93	1.03
30											
31	FUEL OIL (THOUS. BARRELS)	25869.	26158.	26582.	27088.	27641.	27464.	27836.	27982.	28699.	29433.
32	PERCENTAGE CHANGE	3.34	1.12	1.62	1.90	2.04	-0.64	1.35	0.53	2.56	2.56

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 20: TENNESSEE ENERGY CONSUMPTION
(Trillions of BTU's)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	ELECTRICITY	255.0	257.2	260.3	264.5	268.1	271.9	277.6	284.0	290.4	297.3
2	PERCENTAGE CHANGE	1.16	0.85	1.21	1.60	1.36	1.44	2.11	2.29	2.26	2.38
3											
4	RESIDENTIAL	90.0	89.7	89.8	90.7	91.8	94.1	95.7	97.1	98.7	100.8
5	PERCENTAGE CHANGE	-0.22	-0.35	0.14	0.97	1.22	2.46	1.77	1.39	1.71	2.13
6											
7	COMMERCIAL	39.1	39.0	39.6	41.1	42.2	42.8	44.3	45.8	47.4	48.7
8	PERCENTAGE CHANGE	-0.57	-0.26	1.69	3.59	2.68	1.61	3.42	3.45	3.37	2.82
9											
10	INDUSTRIAL	125.9	128.5	130.8	132.7	134.1	135.0	137.6	141.1	144.3	147.8
11	PERCENTAGE CHANGE	2.73	2.05	1.81	1.43	1.04	0.68	1.92	2.55	2.27	2.42
12											
13	NATURAL GAS	178.6	175.7	172.6	169.4	165.8	162.0	158.1	155.4	152.7	150.0
14	PERCENTAGE CHANGE	-0.26	-1.64	-1.78	-1.81	-2.16	-2.30	-2.36	-1.76	-1.74	-1.72
15											
16	RESIDENTIAL	38.9	38.8	38.6	38.3	38.0	37.7	37.5	37.2	36.9	36.6
17	PERCENTAGE CHANGE	-0.12	-0.39	-0.60	-0.67	-0.71	-0.73	-0.73	-0.74	-0.74	-0.74
18											
19	COMMERCIAL	30.9	30.8	30.4	29.9	28.8	27.5	26.1	25.5	25.0	24.4
20	PERCENTAGE CHANGE	0.06	-0.53	-1.19	-1.71	-3.65	-4.54	-5.06	-2.17	-2.22	-2.14
21											
22	INDUSTRIAL	96.7	95.2	93.6	92.2	90.8	89.5	88.2	86.9	85.7	84.4
23	PERCENTAGE CHANGE	0.30	-1.64	-1.62	-1.53	-1.49	-1.46	-1.44	-1.45	-1.44	-1.45
24											
25	OTHER	12.0	11.0	10.0	9.1	8.2	7.3	6.4	5.7	5.1	4.5
26	PERCENTAGE CHANGE	-5.69	-8.55	-8.87	-9.03	-10.24	-11.09	-11.90	-10.30	-10.74	-11.24
27											
28	COAL	586.8	593.3	592.6	597.2	601.5	603.6	609.5	611.4	599.3	591.6
29	PERCENTAGE CHANGE	-1.78	1.10	-0.11	0.77	0.73	0.35	0.98	0.30	-1.98	-1.28
30											
31	FUEL OIL	151.7	153.4	155.9	158.9	162.1	161.1	163.3	164.1	168.4	172.7
32	PERCENTAGE CHANGE	3.34	1.12	1.63	1.91	2.05	-0.64	1.36	0.53	2.57	2.57
33											
34	GASOLINE	285.1	280.7	280.9	283.6	287.9	292.5	300.0	305.8	308.6	311.8
35	PERCENTAGE CHANGE	-2.10	-1.53	0.06	0.98	1.52	1.58	2.58	1.92	0.92	1.02
36											
37	OTHER	498.1	499.2	499.9	504.0	508.2	510.2	516.4	520.7	520.3	521.7
38	PERCENTAGE CHANGE	-0.65	0.22	0.14	0.81	0.84	0.40	1.23	0.83	-0.09	0.28
39											
40											
41	TOTAL ENERGY CONSUMPTION	1955.3	1959.4	1962.1	1977.6	1993.6	2001.3	2025.1	2041.4	2039.6	2045.2
42	PERCENTAGE CHANGE	-0.64	0.21	0.14	0.79	0.81	0.38	1.19	0.81	-0.09	0.27
43											
44	GROSS ENERGY CONSUMPTION	1700.3	1702.2	1701.8	1713.1	1725.5	1729.4	1747.4	1757.4	1749.2	1747.8
45	PERCENTAGE CHANGE	-0.91	0.11	-0.02	0.66	0.73	0.22	1.05	0.57	-0.47	-0.08
46											
47	NET ENERGY CONSUMPTION	1343.5	1341.2	1336.7	1343.3	1351.9	1351.7	1364.0	1367.6	1353.0	1344.8
48	PERCENTAGE CHANGE	-1.67	-0.17	-0.34	0.49	0.64	-0.01	0.91	0.26	-1.07	-0.60

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 21: TENNESSEE ENERGY PRICES

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	ELECTRICITY (CENTS/KILOWATT-HOUR)	3.97	4.39	4.79	5.25	5.72	6.23	6.77	7.32	7.94	8.56
2	PERCENTAGE CHANGE	12.63	10.49	9.03	9.78	8.90	8.89	8.58	8.24	8.36	7.81
3											
4	RESIDENTIAL	3.85	4.25	4.63	5.13	5.59	6.08	6.61	7.17	7.77	8.42
5	PERCENTAGE CHANGE	11.69	10.34	8.99	10.67	8.98	8.90	8.70	8.38	8.44	8.34
6											
7	COMMERCIAL	4.87	5.38	5.86	6.39	6.98	7.57	8.14	8.73	9.36	10.05
8	PERCENTAGE CHANGE	12.94	10.53	9.00	9.00	9.16	8.43	7.63	7.17	7.21	7.45
9											
10	INDUSTRIAL	3.94	4.36	4.75	5.17	5.62	6.13	6.66	7.21	7.83	8.40
11	PERCENTAGE CHANGE	13.78	10.71	9.06	8.85	8.70	9.02	8.66	8.29	8.51	7.24
12											
13											
14	TOTAL GAS (CENTS/THERM)	30.9	34.5	38.4	42.7	50.6	61.4	75.7	84.6	94.7	105.9
15	PERCENTAGE CHANGE	13.71	11.54	11.25	11.36	18.30	21.36	23.28	11.82	11.88	11.89
16											
17	RESIDENTIAL	32.1	35.5	39.1	43.1	48.8	55.7	63.8	68.6	73.7	79.3
18	PERCENTAGE CHANGE	13.59	10.54	9.98	10.24	13.29	14.12	14.48	7.51	7.56	7.52
19											
20	COMMERCIAL	35.0	38.8	42.6	47.3	55.5	66.3	80.1	88.5	97.9	108.1
21	PERCENTAGE CHANGE	13.48	10.97	9.92	10.96	17.22	19.59	20.82	10.51	10.53	10.46
22											
23	INDUSTRIAL	29.0	32.5	36.6	41.0	49.8	62.5	80.1	91.3	104.0	118.5
24	PERCENTAGE CHANGE	14.06	12.27	12.46	12.10	21.38	25.61	28.11	13.99	13.97	13.93
25											
26	COAL PRICE ($/TON)	36.24	40.39	44.38	48.45	52.66	57.35	62.45	68.05	74.93	81.21
27	PERCENTAGE CHANGE	9.79	11.44	9.89	9.15	8.71	8.90	8.89	8.97	10.10	8.39

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 22: TENNESSEE COMMERCIAL BANKS AND SAVINGS AND LOANS
ASSETS AND LIABILITIES
(Millions of Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	COMMERCIAL BANKS										
2	ASSETS	25455.	27398.	30303.	33312.	36596.	39955.	44063.	48678.	53820.	60227.
3	PERCENTAGE CHANGE	6.94	7.63	10.60	9.93	9.86	9.18	10.28	10.47	10.56	11.90
4											
5	TOTAL LOANS	14250.	15471.	17221.	19014.	20954.	22934.	25353.	28070.	31099.	34871.
6	PERCENTAGE CHANGE	9.85	8.56	11.31	10.41	10.20	9.45	10.55	10.72	10.79	12.13
7											
8	SECURITIES AND OTHER INVESTMENTS	11204.	11927.	13082.	14299.	15642.	17021.	18710.	20608.	22721.	25356.
9	PERCENTAGE CHANGE	3.45	6.45	9.68	9.30	9.39	8.82	9.92	10.14	10.26	11.60
10											
11	LIABILITIES										
12	TOTAL DEPOSITS	21102.	22802.	25222.	27698.	30395.	33150.	36513.	40288.	44490.	49728.
13	PERCENTAGE CHANGE	6.59	8.06	10.61	9.82	9.74	9.06	10.14	10.34	10.43	11.78
14											
15	DEMAND DEPOSITS	6142.	6170.	6154.	6271.	6395.	6524.	6708.	6965.	7276.	7655.
16	PERCENTAGE CHANGE	1.40	0.46	-0.26	1.89	1.98	2.02	2.81	3.83	4.46	5.21
17											
18	TIME DEPOSITS	14960.	16632.	19067.	21427.	24000.	26625.	29805.	33323.	37214.	42073.
19	PERCENTAGE CHANGE	8.87	11.18	14.64	12.38	12.01	10.94	11.94	11.80	11.68	13.06
20											
21	AVERAGE YIELDS (PERCENT)										
22	LOANS	15.72	14.94	13.58	12.53	12.29	12.02	11.91	11.48	11.07	10.93
23	PERCENTAGE CHANGE	20.01	-4.94	-9.12	-7.74	-1.93	-2.13	-0.91	-3.65	-3.61	-1.26
24											
25	SECURITIES	12.17	11.70	10.30	9.08	8.94	8.86	8.84	8.49	8.03	7.90
26	PERCENTAGE CHANGE	13.73	-3.83	-11.99	-11.89	-1.44	-0.96	-0.17	-4.00	-5.41	-1.61
27											
28											
29	SAVINGS AND LOANS										
30	ASSETS	7624.	8295.	9364.	10381.	11539.	12784.	14336.	16102.	18049.	20482.
31	PERCENTAGE CHANGE	2.68	8.80	12.89	10.86	11.15	10.79	12.14	12.32	12.09	13.48
32											
33	TOTAL LOANS	6589.	7179.	8109.	8993.	9998.	11078.	12423.	13955.	15644.	17754.
34	PERCENTAGE CHANGE	5.56	8.95	12.96	10.90	11.17	10.80	12.15	12.33	12.10	13.49
35											
36	SECURITIES AND OTHER INVESTMENTS	1035.	1116.	1255.	1388.	1541.	1706.	1912.	2147.	2405.	2728.
37	PERCENTAGE CHANGE	-12.52	7.87	12.41	10.64	11.03	10.71	12.07	12.26	12.05	13.43
38											
39	LIABILITIES										
40	TIME DEPOSITS	6472.	6981.	7847.	8682.	9639.	10671.	11958.	13424.	15041.	17062.
41	PERCENTAGE CHANGE	3.34	7.86	12.40	10.64	11.02	10.71	12.07	12.26	12.04	13.43

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

CONTROL SOLUTION: JANUARY, 1982

TABLE 23: TENNESSEE AGRICULTURAL OUTPUT
(Millions of Dollars)

#	DESCRIPTION	FORECAST DATA 1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	CASH RECEIPTS	1854.5	1958.7	2081.2	2169.3	2247.2	2335.0	2461.9	2611.1	2776.1	2931.9
2	PERCENTAGE CHANGE	6.76	5.62	6.26	4.23	3.59	3.91	5.43	6.06	6.32	5.61
3											
4	CROPS	885.6	928.3	978.7	1015.9	1046.1	1083.8	1139.9	1210.1	1289.2	1365.0
5	PERCENTAGE CHANGE	3.88	4.83	5.42	3.80	2.97	3.61	5.17	6.16	6.54	5.87
6											
7	MEAT ANIMALS	540.5	565.5	600.6	623.7	630.3	640.5	669.0	705.5	743.1	774.3
8	PERCENTAGE CHANGE	10.53	4.63	6.21	3.84	1.06	1.62	4.46	5.44	5.33	4.20
9											
10	DAIRY PRODUCTS	308.6	335.8	363.3	389.7	419.1	455.1	490.8	525.9	566.7	609.2
11	PERCENTAGE CHANGE	7.43	8.81	8.21	7.24	7.56	8.57	7.86	7.15	7.77	7.49
12											
13	POULTRY AND EGGS	119.8	129.0	138.6	140.0	151.7	155.7	162.2	169.6	177.1	183.5
14	PERCENTAGE CHANGE	10.56	7.67	7.39	1.06	8.33	2.62	4.20	4.57	4.38	3.63
15											
16	EXPENSES	1007.1	1069.3	1138.0	1209.5	1276.6	1347.4	1419.6	1495.3	1570.8	1641.4
17	PERCENTAGE CHANGE	6.75	6.17	6.43	6.28	5.55	5.55	5.36	5.33	5.05	4.50
18											
19	GROSS OUTPUT	847.4	889.4	943.2	959.8	970.6	987.6	1042.3	1115.8	1205.3	1290.5
20	PERCENTAGE CHANGE	6.77	4.95	6.05	1.76	1.13	1.75	5.54	7.05	8.02	7.07
21											
22	GROSS OUTPUT (MIL 72 $)	423.5	431.1	435.9	453.7	464.0	468.5	486.3	507.0	533.1	560.4
23	PERCENTAGE CHANGE	2.94	1.78	1.11	4.08	2.29	0.97	3.80	4.26	5.15	5.12

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

APPENDIX II: HISTORICAL DATA

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 1: TENNESSEE SELECTED INDICATORS

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	TN GROSS STATE PRODUCT (MIL. DOL.)	18512.	21004.	23949.	26076.	27257.	30695.	34840.	39338.	43184.	45870.
2	PERCENTAGE CHANGE	10.12	13.46	14.03	8.88	4.53	12.61	13.51	12.91	9.78	6.22
3											
4	TN GROSS STATE PRODUCT (MIL 72 $)	19107.6	21003.5	22933.0	23071.5	21928.1	23526.3	25226.7	26688.2	27270.3	26685.9
5	PERCENTAGE CHANGE	5.78	9.92	9.19	0.60	-4.96	7.29	7.23	5.79	2.18	-2.14
6											
7	US GROSS NATIONAL PRODUCT (BIL 72 $)	1122.4	1185.9	1255.0	1248.0	1233.9	1300.4	1371.7	1436.9	1483.0	1480.7
8	PERCENTAGE CHANGE	3.39	5.66	5.83	-0.56	-1.13	5.39	5.48	4.75	3.21	-0.16
9											
10	TN PERSONAL INCOME (MIL. DOL.)	13358.	14981.	17011.	18792.	20306.	22676.	25101.	28502.	32114.	35525.
11	PERCENTAGE CHANGE	9.55	12.15	13.55	10.47	8.06	11.67	10.70	13.55	12.68	10.62
12											
13	TN PERSONAL INCOME (MIL 72 $)	13842.4	14980.6	16093.8	16158.5	16219.0	17230.6	17993.6	19115.8	19787.0	19857.4
14	PERCENTAGE CHANGE	5.01	8.22	7.43	0.40	0.37	6.24	4.43	6.24	3.51	0.36
15											
16	US PERSONAL INCOME (BIL 72 $)	899.9	951.4	1007.7	1004.8	1010.4	1057.1	1102.5	1154.8	1197.6	1207.5
17	PERCENTAGE CHANGE	2.63	5.71	5.93	-0.29	0.55	4.63	4.29	4.74	3.71	0.82
18											
19	TN EMPLOYED PERSONS (THOUS)	1586.0	1662.0	1683.0	1729.0	1658.0	1722.0	1780.0	1806.0	1865.0	1870.0
20	PERCENTAGE CHANGE	0.83	4.79	1.26	2.73	-4.11	3.86	3.37	1.46	3.27	0.27
21											
22	US EMPLOYED PERSONS (MIL)	79.6	82.0	84.9	86.5	85.5	88.3	91.6	95.8	98.6	99.2
23	PERCENTAGE CHANGE	1.24	3.07	3.42	1.96	-1.21	3.37	3.74	4.49	2.93	0.65
24											
25	TN UNEMPLOYMENT RATE	4.7	3.7	3.9	5.1	8.3	6.0	6.3	5.8	5.8	7.2
26											
27	US UNEMPLOYMENT RATE	5.9	5.6	4.9	5.6	8.5	7.7	7.0	6.0	5.8	7.1
28											
29	IMPLICIT DEFLATOR, GSP	96.9	100.0	104.4	113.0	124.3	130.5	138.1	147.4	158.4	171.9
30	PERCENTAGE CHANGE	4.11	3.22	4.43	8.22	9.98	4.96	5.85	6.73	7.43	8.55
31											
32	IMPLICIT DEFLATOR, GNP	96.0	100.0	105.7	114.9	125.6	132.1	139.8	150.1	162.8	177.4
33	PERCENTAGE CHANGE	4.99	4.16	5.69	8.73	9.26	5.22	5.84	7.31	8.48	8.96
34											
35	TN MFG OUTPUT / EMPLOYEE (THOUS 72 $)	14.6	15.7	16.9	17.1	16.5	17.3	18.6	18.8	19.0	18.7
36	PERCENTAGE CHANGE	5.34	7.24	7.90	1.42	-3.72	4.81	7.57	0.86	1.32	-1.45
37											
38	US MFG OUTPUT / EMPLOYEE (THOUS 72 $)	14.3	15.3	16.1	15.5	15.8	16.7	17.2	17.6	17.5	17.2
39	PERCENTAGE CHANGE	6.26	6.58	5.68	-3.82	1.82	5.71	3.19	1.81	-0.03	-1.75
40											
41	TN PER CAPITA INCOME ($)	3331.	3664.	4111.	4473.	4766.	5238.	5702.	6388.	7084.	7720.
42	PERCENTAGE CHANGE	7.56	10.00	12.20	8.81	6.55	9.90	8.86	12.03	10.90	8.98
43											
44	TN POPULATION (THOUS.)	4010.	4088.	4138.	4202.	4261.	4329.	4402.	4462.	4533.	4602.
45	PERCENTAGE CHANGE	1.85	1.95	1.22	1.55	1.40	1.60	1.69	1.36	1.59	1.52

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 2: TENNESSEE GROSS STATE PRODUCT BY SECTOR
(Millions of Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	GROSS STATE PRODUCT	18512.	21004.	23949.	26076.	27257.	30695.	34840.	39338.	43184.	45870.
2	PERCENTAGE CHANGE	10.12	13.46	14.03	8.88	4.53	12.61	13.51	12.91	9.78	6.22
3											
4	MANUFACTURING	6728.	7662.	8772.	9564.	9289.	10724.	12663.	14046.	15019.	15403.
5	PERCENTAGE CHANGE	6.84	13.88	14.50	9.02	-2.87	15.44	18.09	10.92	6.92	2.56
6											
7	DURABLE GOODS	2796.	3334.	3857.	4192.	3763.	4653.	5500.	6324.	6831.	6712.
8	PERCENTAGE CHANGE	7.11	19.24	15.69	8.70	-10.24	23.67	18.18	14.98	8.03	-1.75
9											
10	NONDURABLE GOODS	3932.	4328.	4916.	5372.	5527.	6070.	7164.	7722.	8187.	8692.
11	PERCENTAGE CHANGE	6.65	10.07	13.58	9.27	2.89	9.84	18.01	7.80	6.02	6.16
12											
13	CONSTRUCTION	805.	912.	1083.	1176.	1173.	1239.	1379.	1608.	1774.	1803.
14	PERCENTAGE CHANGE	18.33	13.27	18.80	8.61	-0.23	5.55	11.37	16.53	10.37	1.65
15											
16	MINING	139.	149.	162.	246.	309.	266.	336.	397.	427.	471.
17	PERCENTAGE CHANGE	5.41	7.25	8.41	52.40	25.28	-13.67	26.03	18.10	7.75	10.26
18											
19	TRADE	3002.	3430.	3899.	4210.	4609.	5128.	5645.	6267.	6858.	7343.
20	PERCENTAGE CHANGE	12.59	14.27	13.66	7.98	9.50	11.26	10.08	11.01	9.44	7.08
21											
22	SERVICES	1843.	2066.	2367.	2580.	2869.	3166.	3478.	3982.	4559.	5225.
23	PERCENTAGE CHANGE	9.95	12.13	14.54	9.02	11.18	10.35	9.87	14.50	14.47	14.62
24											
25	FINANCE, INSURANCE & REAL ESTATE	2197.	2461.	2715.	2983.	3220.	3623.	4088.	4552.	5143.	5687.
26	PERCENTAGE CHANGE	12.75	12.02	10.28	9.90	7.92	12.52	12.84	11.36	12.97	10.58
27											
28	TRANS., COMM. & PUBLIC UTILITIES	1292.	1481.	1683.	1841.	1982.	2324.	2619.	3051.	3364.	3694.
29	PERCENTAGE CHANGE	12.94	14.63	13.64	9.40	7.65	17.29	12.68	16.48	10.27	9.81
30											
31	GOVERNMENT	2034.	2306.	2543.	2833.	3178.	3451.	3957.	4561.	5019.	5450.
32	PERCENTAGE CHANGE	10.86	13.34	10.29	11.41	12.19	8.58	14.68	15.24	10.04	8.59
33											
34	FEDERAL	791.	898.	949.	1057.	1193.	1302.	1493.	1770.	1927.	2085.
35	PERCENTAGE CHANGE	8.22	13.58	5.60	11.45	12.84	9.13	14.70	18.49	8.90	8.18
36											
37	STATE & LOCAL	1243.	1407.	1594.	1775.	1985.	2149.	2464.	2791.	3092.	3365.
38	PERCENTAGE CHANGE	12.61	13.20	13.28	11.38	11.80	8.25	14.67	13.27	10.77	8.85
39											
40	AGRICULTURE	471.	537.	727.	643.	629.	775.	674.	876.	1022.	794.
41	PERCENTAGE CHANGE	9.15	13.89	35.43	-11.59	-2.18	23.22	-12.97	29.88	16.68	-22.33
42											
43	PER CAPITA GROSS STATE PRODUCT ($)	4616.	5138.	5788.	6205.	6397.	7091.	7915.	8816.	9527.	9967.
44	PERCENTAGE CHANGE	8.12	11.30	12.65	7.22	3.09	10.84	11.62	11.39	8.06	4.63

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 3: TENNESSEE DURABLE GOODS MANUFACTURING GROSS PRODUCT
(Millions of Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	TOTAL DURABLE GOODS	2796.	3334.	3857.	4192.	3763.	4653.	5500.	6324.	6831.	6712.
2	PERCENTAGE CHANGE	7.11	19.24	15.69	8.70	-10.24	23.67	18.18	14.98	8.03	-1.75
3											
4	LUMBER AND WOOD PRODUCTS	116.	196.	227.	181.	152.	217.	262.	294.	350.	319.
5	PERCENTAGE CHANGE	9.81	68.64	13.19	-18.59	-15.98	43.03	20.33	12.38	19.13	-8.91
6											
7	FURNITURE AND FIXTURES	229.	286.	306.	292.	264.	327.	381.	407.	418.	405.
8	PERCENTAGE CHANGE	11.44	25.12	6.70	-4.48	-9.69	24.20	16.43	6.87	2.62	-3.01
9											
10	STONE, CLAY AND GLASS	291.	358.	401.	407.	371.	450.	447.	572.	581.	504.
11	PERCENTAGE CHANGE	12.29	23.24	12.09	1.30	-8.76	21.25	-0.69	28.15	1.47	-13.19
12											
13	PRIMARY METALS	244.	271.	390.	512.	383.	451.	525.	629.	773.	766.
14	PERCENTAGE CHANGE	-1.93	10.82	44.29	31.21	-25.31	17.83	16.55	19.72	22.87	-0.90
15											
16	FABRICATED METAL PRODUCTS	352.	448.	533.	576.	636.	705.	833.	922.	975.	990.
17	PERCENTAGE CHANGE	7.42	27.38	18.97	7.97	10.46	10.89	18.17	10.65	5.77	1.56
18											
19	NONELECTRICAL MACHINERY	436.	518.	690.	816.	715.	882.	1119.	1195.	1329.	1334.
20	PERCENTAGE CHANGE	4.40	18.72	33.12	18.38	-12.41	23.34	26.82	6.86	11.21	0.38
21											
22	ELECTRICAL MACHINERY	621.	692.	727.	638.	613.	775.	954.	1144.	1193.	1230.
23	PERCENTAGE CHANGE	16.69	11.52	4.98	-12.27	-3.87	26.55	23.02	19.91	4.31	3.11
24											
25	TRANSPORTATION EQUIPMENT	305.	380.	383.	522.	344.	525.	687.	823.	837.	763.
26	PERCENTAGE CHANGE	-2.06	24.57	0.84	36.16	-34.09	52.66	30.86	19.84	1.68	-8.86
27											
28	OTHER DURABLE GOODS	202.	184.	205.	250.	286.	321.	293.	337.	376.	400.
29	PERCENTAGE CHANGE	-0.20	-8.85	11.12	21.92	14.66	12.12	-8.85	15.24	11.37	6.48
30											

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 4: TENNESSEE NONDURABLE GOODS MANUFACTURING GROSS PRODUCT
(Millions of Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	NONDURABLE GOODS	3932.	4328.	4916.	5372.	5527.	6070.	7164.	7722.	8187.	8692.
2	PERCENTAGE CHANGE	6.65	10.07	13.58	9.27	2.89	9.84	18.01	7.80	6.02	6.16
3											
4	FOOD	641.	690.	796.	925.	983.	1118.	1280.	1410.	1498.	1621.
5	PERCENTAGE CHANGE	4.65	7.64	15.37	16.19	6.28	13.72	14.46	10.15	6.28	8.20
6											
7	TEXTILES	349.	340.	373.	383.	346.	369.	427.	436.	449.	469.
8	PERCENTAGE CHANGE	13.01	-2.61	9.79	2.63	-9.66	6.67	15.52	2.20	2.98	4.41
9											
10	APPAREL	462.	589.	646.	637.	653.	819.	919.	932.	938.	1000.
11	PERCENTAGE CHANGE	-0.39	27.58	9.57	-1.41	2.61	25.35	12.25	1.45	0.62	6.57
12											
13	PAPER	300.	361.	432.	503.	466.	549.	618.	651.	759.	813.
14	PERCENTAGE CHANGE	10.25	20.22	19.81	16.35	-7.27	17.73	12.60	5.34	16.53	7.12
15											
16	PRINTING AND PUBLISHING	255.	274.	332.	391.	418.	419.	510.	586.	627.	654.
17	PERCENTAGE CHANGE	5.84	7.44	20.99	17.65	6.96	0.19	21.76	14.87	7.15	4.27
18											
19	CHEMICALS	1383.	1396.	1569.	1709.	1827.	1919.	2276.	2434.	2616.	2805.
20	PERCENTAGE CHANGE	6.39	0.93	12.36	8.94	6.94	5.02	18.59	6.94	7.48	7.22
21											
22	RUBBER AND PLASTICS	301.	414.	481.	488.	472.	491.	681.	789.	830.	769.
23	PERCENTAGE CHANGE	14.11	37.65	16.18	1.43	-3.36	4.03	38.82	15.88	5.15	-7.37
24											
25	OTHER NONDURABLE GOODS	241.	263.	287.	336.	361.	387.	453.	484.	470.	561.
26	PERCENTAGE CHANGE	7.12	9.43	8.81	17.35	7.35	7.18	17.19	6.82	-3.01	19.51

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 5: TENNESSEE GROSS STATE PRODUCT BY SECTOR
(Millions of 1972 Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	GROSS STATE PRODUCT	19107.6	21003.5	22933.0	23071.5	21928.1	23526.3	25226.7	26688.2	27270.3	26685.9
2	PERCENTAGE CHANGE	5.78	9.92	9.19	0.60	-4.96	7.29	7.23	5.79	2.18	-2.14
3											
4	MANUFACTURING	6710.9	7661.9	8777.9	8797.9	7574.7	8426.7	9442.6	9870.9	9976.4	9446.1
5	PERCENTAGE CHANGE	4.36	14.17	14.57	0.23	-13.90	11.25	12.06	4.54	1.07	-5.32
6											
7	DURABLE GOODS	2837.3	3333.6	3802.6	3861.2	3023.1	3608.6	4010.5	4314.4	4344.5	3950.2
8	PERCENTAGE CHANGE	2.60	17.49	14.07	1.54	-21.70	19.37	11.14	7.58	0.70	-9.08
9											
10	NONDURABLE GOODS	3873.6	4328.3	4975.4	4936.7	4551.6	4818.1	5432.2	5556.5	5631.9	5495.9
11	PERCENTAGE CHANGE	5.68	11.74	14.95	-0.78	-7.80	5.86	12.75	2.29	1.36	-2.41
12											
13	CONSTRUCTION	870.0	911.6	981.8	906.1	811.0	853.0	880.3	946.2	914.0	819.4
14	PERCENTAGE CHANGE	17.18	4.78	7.71	-7.71	-10.50	5.19	3.20	7.48	-3.40	-10.36
15											
16	MINING	147.1	149.1	142.6	147.1	149.9	118.5	136.5	151.9	129.5	110.4
17	PERCENTAGE CHANGE	3.90	1.33	-4.38	3.17	1.93	-20.99	15.24	11.25	-14.75	-14.75
18											
19	TRADE	3068.4	3430.2	3715.5	3608.5	3630.0	3874.6	4041.1	4270.4	4340.7	4231.1
20	PERCENTAGE CHANGE	8.63	11.79	8.32	-2.88	0.60	6.74	4.30	5.67	1.65	-2.52
21											
22	SERVICES	1915.1	2066.3	2239.2	2277.7	2288.2	2351.5	2410.9	2575.2	2691.4	2791.6
23	PERCENTAGE CHANGE	3.25	7.90	8.37	1.72	0.46	2.77	2.53	6.81	4.51	3.72
24											
25	FINANCE, INSURANCE & REAL ESTATE	2284.5	2461.4	2601.9	2724.9	2799.2	2957.8	3116.4	3213.7	3335.2	3429.9
26	PERCENTAGE CHANGE	7.16	7.74	5.71	4.72	2.73	5.67	5.36	3.12	3.78	2.84
27											
28	TRANS., COMM. & PUBLIC UTILITIES	1347.1	1480.6	1628.6	1676.0	1657.1	1806.4	1922.3	2125.3	2241.3	2272.8
29	PERCENTAGE CHANGE	6.36	9.91	9.99	2.91	-1.13	9.01	6.42	10.56	5.46	1.40
30											
31	GOVERNMENT	2208.9	2305.5	2383.4	2500.0	2586.1	2595.9	2809.0	3037.1	3132.3	3173.2
32	PERCENTAGE CHANGE	2.71	4.38	3.38	4.89	3.45	0.38	8.21	8.12	3.13	1.31
33											
34	FEDERAL	889.6	898.4	905.2	940.6	985.9	996.1	1090.3	1210.7	1235.9	1247.3
35	PERCENTAGE CHANGE	-0.70	0.98	0.75	3.91	4.82	1.03	9.46	11.04	2.08	0.93
36											
37	STATE & LOCAL	1319.2	1407.2	1478.2	1559.4	1600.2	1599.9	1718.7	1826.4	1896.4	1925.9
38	PERCENTAGE CHANGE	5.14	6.66	5.05	5.49	2.62	-0.02	7.43	6.26	3.83	1.56
39											
40	AGRICULTURE	555.5	536.9	462.1	433.3	431.9	541.9	467.5	497.6	509.5	411.4
41	PERCENTAGE CHANGE	6.72	-3.35	-13.94	-6.22	-0.32	25.46	-13.73	6.45	2.38	-19.25
42											
43	PER CAPITA GROSS STATE PRODUCT ($)	4765.	5138.	5542.	5491.	5146.	5435.	5731.	5981.	6016.	5799.
44	PERCENTAGE CHANGE	3.85	7.82	7.87	-0.93	-6.27	5.60	5.45	4.37	0.58	-3.61

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 6: TENNESSEE DURABLE GOODS MANUFACTURING GROSS PRODUCT
(Millions of 1972 Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	TOTAL DURABLE GOODS	2837.3	3333.6	3802.6	3861.2	3023.1	3608.6	4010.5	4314.4	4344.5	3950.2
2	PERCENTAGE CHANGE	2.60	17.49	14.07	1.54	-21.70	19.37	11.14	7.58	0.70	-9.08
3											
4	LUMBER AND WOOD PRODUCTS	125.3	196.3	194.9	156.9	136.3	169.0	182.7	175.7	190.5	164.4
5	PERCENTAGE CHANGE	1.42	56.67	-0.71	-19.51	-13.11	24.00	8.06	-3.80	8.43	-13.75
6											
7	FURNITURE AND FIXTURES	222.4	286.4	293.9	266.6	216.6	266.0	296.6	300.0	286.7	262.8
8	PERCENTAGE CHANGE	10.88	28.75	2.60	-9.28	-18.76	22.80	11.53	1.14	-4.42	-8.34
9											
10	STONE, CLAY AND GLASS	299.8	358.0	393.4	373.3	300.1	340.2	311.2	362.9	347.9	286.4
11	PERCENTAGE CHANGE	2.90	19.42	9.90	-5.12	-19.61	13.36	-8.51	16.60	-4.12	-17.68
12											
13	PRIMARY METALS	265.0	270.5	397.4	418.7	260.2	298.3	320.3	351.3	389.1	345.1
14	PERCENTAGE CHANGE	-4.91	2.06	46.93	5.36	-37.86	14.63	7.38	9.69	10.74	-11.31
15											
16	FABRICATED METAL PRODUCTS	363.3	448.0	517.0	481.6	446.1	487.8	550.2	569.6	571.1	552.5
17	PERCENTAGE CHANGE	0.10	23.31	15.40	-6.85	-7.37	9.35	12.79	3.53	0.26	-3.26
18											
19	NONELECTRICAL MACHINERY	440.4	518.1	682.2	764.5	568.5	679.6	803.1	802.3	840.3	783.1
20	PERCENTAGE CHANGE	0.72	17.65	31.67	12.07	-25.64	19.53	18.18	-0.10	4.74	-6.81
21											
22	ELECTRICAL MACHINERY	619.5	692.2	728.9	610.0	521.1	640.4	749.4	865.3	845.6	808.9
23	PERCENTAGE CHANGE	13.32	11.74	5.30	-16.30	-14.58	22.89	17.02	15.46	-2.27	-4.35
24											
25	TRANSPORTATION EQUIPMENT	298.8	379.8	389.0	540.9	315.0	453.3	552.8	621.9	585.4	473.7
26	PERCENTAGE CHANGE	-5.42	27.09	2.42	39.04	-41.77	43.93	21.95	12.49	-5.86	-19.08
27											
28	OTHER DURABLE GOODS	202.8	184.3	205.9	248.7	259.3	274.0	244.1	265.4	287.7	273.3
29	PERCENTAGE CHANGE	-2.63	-9.10	11.71	20.79	4.25	5.68	-10.90	8.71	8.41	-5.01

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 7: TENNESSEE NONDURABLE GOODS MANUFACTURING GROSS PRODUCT
(Millions of 1972 Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	TOTAL NONDURABLE GOODS	3873.6	4328.3	4975.4	4936.7	4551.6	4818.1	5432.2	5556.5	5631.9	5495.9
2	PERCENTAGE CHANGE	5.68	11.74	14.95	-0.78	-7.80	5.86	12.75	2.29	1.36	-2.41
3											
4	FOOD	612.4	690.2	859.9	865.5	749.5	874.3	939.0	981.8	1002.9	1054.1
5	PERCENTAGE CHANGE	3.15	12.70	24.59	0.65	-13.41	16.65	7.41	4.55	2.15	5.11
6											
7	TEXTILES	359.5	340.0	362.1	308.9	287.2	295.6	340.9	318.6	310.2	298.1
8	PERCENTAGE CHANGE	14.52	-5.43	6.49	-14.67	-7.03	2.92	15.33	-6.54	-2.64	-3.89
9											
10	APPAREL	419.5	589.3	658.9	637.9	615.1	717.6	747.2	737.1	722.8	735.1
11	PERCENTAGE CHANGE	-1.66	40.47	11.81	-3.18	-3.58	16.68	4.12	-1.36	-1.93	1.71
12											
13	PAPER	303.5	360.9	419.8	442.9	352.1	395.4	429.5	426.0	450.8	432.5
14	PERCENTAGE CHANGE	13.70	18.90	16.32	5.50	-20.50	12.30	8.62	-0.80	5.81	-4.05
15											
16	PRINTING AND PUBLISHING	262.5	274.4	323.6	355.7	343.6	314.5	353.7	374.1	371.0	364.8
17	PERCENTAGE CHANGE	0.62	4.54	17.93	9.93	-3.41	-8.47	12.47	5.77	-0.84	-1.66
18											
19	CHEMICALS	1380.4	1396.0	1581.1	1551.9	1476.0	1487.6	1716.2	1755.9	1836.8	1769.4
20	PERCENTAGE CHANGE	5.23	1.13	13.26	-1.85	-4.89	0.79	15.37	2.31	4.61	-3.67
21											
22	RUBBER AND PLASTICS	305.2	414.2	486.1	461.3	407.3	403.9	532.2	590.9	595.9	508.8
23	PERCENTAGE CHANGE	10.52	35.72	17.35	-5.09	-11.71	-0.85	31.78	11.02	0.84	-14.60
24											
25	OTHER NONDURABLE GOODS	230.6	263.3	283.9	312.5	320.8	329.2	373.4	372.1	341.6	332.9
26	PERCENTAGE CHANGE	7.12	14.17	7.82	10.08	2.66	2.63	13.42	-0.34	-8.20	-2.55

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 8: TENNESSEE EMPLOYMENT BY SECTOR
(Thousands)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	NONAGRICULTURAL JOBS *	1356.8	1450.1	1531.1	1558.2	1505.7	1577.4	1648.1	1737.2	1776.7	1733.2
2	PERCENTAGE CHANGE	2.20	6.88	5.59	1.77	-3.37	4.76	4.48	5.41	2.27	-2.45
3											
4	MANUFACTURING	459.5	489.2	519.4	513.3	459.0	487.2	507.5	526.0	524.7	504.1
5	PERCENTAGE CHANGE	-0.93	6.46	6.17	-1.17	-10.58	6.14	4.17	3.65	-0.25	-3.93
6											
7	CONSTRUCTION	70.4	78.6	86.1	87.8	76.0	75.2	78.4	87.3	89.2	76.8
8	PERCENTAGE CHANGE	7.81	11.65	9.54	1.97	-13.44	-1.05	4.26	11.35	2.18	-13.90
9											
10	MINING	7.2	7.1	7.0	8.3	9.5	9.4	9.9	11.0	9.9	9.0
11	PERCENTAGE CHANGE	1.41	-1.39	-1.41	18.57	14.46	-1.05	5.32	11.11	-10.00	-9.09
12											
13	TRADE	269.0	294.3	312.0	321.0	320.8	339.8	357.2	379.1	388.7	376.6
14	PERCENTAGE CHANGE	4.38	9.41	6.01	2.88	-0.06	5.92	5.12	6.13	2.53	-3.11
15											
16	SERVICES	193.2	209.8	221.9	227.6	229.4	240.0	254.5	270.7	285.4	288.4
17	PERCENTAGE CHANGE	4.49	8.59	5.77	2.57	0.79	4.62	6.04	6.37	5.43	1.05
18											
19	FINANCE, INSURANCE & REAL ESTATE	58.4	61.2	66.1	69.5	68.9	69.8	71.1	74.3	77.6	78.0
20	PERCENTAGE CHANGE	3.36	4.79	8.01	5.14	-0.86	1.31	1.86	4.50	4.44	0.52
21											
22	TRANS., COMM. & PUBLIC UTILITIES	67.2	69.3	72.4	74.3	70.8	73.3	78.3	83.2	87.3	85.6
23	PERCENTAGE CHANGE	1.20	3.12	4.47	2.62	-4.71	3.53	6.82	6.26	4.93	-1.95
24											
25	GOVERNMENT	231.9	240.6	246.2	256.4	271.3	282.7	291.2	305.6	313.9	314.7
26	PERCENTAGE CHANGE	2.66	3.75	2.33	4.14	5.81	4.20	3.01	4.94	2.72	0.25
27											
28	FEDERAL, CIVILIAN	47.0	51.7	52.0	55.8	58.5	60.8	64.5	67.7	74.4	74.2
29	PERCENTAGE CHANGE	0.64	10.00	0.58	7.31	4.84	3.93	6.09	4.96	9.90	-0.27
30											
31	STATE & LOCAL	184.9	188.9	194.2	200.6	212.8	221.9	226.7	237.9	239.5	240.5
32	PERCENTAGE CHANGE	3.18	2.16	2.81	3.30	6.08	4.28	2.16	4.94	0.67	0.42
33											
34	AGRICULTURAL JOBS *	151.0	153.0	147.0	134.0	138.0	143.0	131.0	116.0	107.0	101.0
35	PERCENTAGE CHANGE	-1.31	1.32	-3.92	-8.84	2.99	3.62	-8.39	-11.45	-7.76	-5.61
36											
37	TOTAL EMPLOYMENT (THOUS. PERSONS)*	1586.0	1662.0	1683.0	1729.0	1658.0	1722.0	1780.0	1806.0	1865.0	1870.0
38	PERCENTAGE CHANGE	0.83	4.79	1.26	2.73	-4.11	3.86	3.37	1.46	3.27	0.27
39											
40	UNEMPLOYMENT (THOUS. PERSONS)	78.0	64.0	68.0	92.0	151.0	110.0	120.0	110.0	115.0	145.0
41	PERCENTAGE CHANGE	11.43	-17.95	6.25	35.29	64.13	-27.15	9.09	-8.33	4.55	26.09
42											
43	UNEMPLOYMENT RATE (PERCENT)	4.7	3.7	3.9	5.1	8.3	6.0	6.3	5.8	5.8	7.2
44											
45	CIVILIAN LABOR FORCE (THOUS. PERSONS)	1664.0	1726.0	1752.0	1821.0	1809.0	1832.0	1900.0	1916.0	1980.0	2015.0
46	PERCENTAGE CHANGE	1.28	3.73	1.51	3.94	-0.66	1.27	3.71	0.84	3.34	1.77

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

* Total agricultural and nonagricultural jobs does not add up to total employed workers because of workers commuting across state boundaries, multiple job-holders, the inclusion of self-employed workers, and unpaid family workers in nonagricultural establishments.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 9: TENNESSEE DURABLE GOODS MANUFACTURING EMPLOYMENT
(Thousands of Jobs)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	TOTAL DURABLE GOODS	188.0	212.4	231.4	229.1	194.6	208.9	222.8	238.1	241.3	224.2
2	PERCENTAGE CHANGE	-1.52	12.98	8.95	-0.99	-15.06	7.35	6.65	6.87	1.34	-7.09
3											
4	LUMBER AND WOOD PRODUCTS	15.2	18.8	19.7	19.4	16.1	18.0	19.2	20.0	21.4	18.8
5	PERCENTAGE CHANGE	-1.94	23.68	4.79	-1.52	-17.01	11.80	6.67	4.17	7.00	-12.15
6											
7	FURNITURE AND FIXTURES	24.6	27.9	28.3	25.7	22.5	24.2	24.7	26.1	24.2	22.4
9	PERCENTAGE CHANGE	0.0	13.41	1.43	-9.19	-12.45	7.56	2.07	5.67	-7.28	-7.44
9											
10	STONE, CLAY AND GLASS	14.5	16.5	18.1	18.2	15.5	16.1	17.0	17.5	16.8	14.0
11	PERCENTAGE CHANGE	2.84	13.79	9.70	0.55	-14.84	3.87	5.59	2.94	-4.00	-16.67
12											
13	PRIMARY METALS	17.9	17.7	18.5	20.0	17.4	18.2	19.2	19.0	20.9	19.7
14	PERCENTAGE CHANGE	-5.29	-1.12	4.52	8.11	-13.00	4.60	5.49	-1.04	10.00	-5.74
15											
16	FABRICATED METAL PRODUCTS	27.8	31.2	34.0	33.7	31.3	30.3	32.3	34.6	34.3	33.5
17	PERCENTAGE CHANGE	-1.42	12.23	8.97	-0.88	-7.12	-3.19	6.60	7.12	-0.87	-2.33
18											
19	NONELECTRICAL MACHINERY	20.8	27.5	32.8	33.7	27.9	30.2	34.1	35.7	36.8	35.0
20	PERCENTAGE CHANGE	0.0	32.21	19.27	2.74	-17.21	8.24	12.91	4.69	3.08	-4.89
21											
22	ELECTRICAL MACHINERY	33.1	38.5	41.9	39.8	31.4	34.8	38.0	42.4	41.6	39.8
23	PERCENTAGE CHANGE	1.22	16.31	8.83	-5.01	-21.11	10.83	9.20	11.58	-1.89	-4.33
24											
25	TRANSPORTATION EQUIPMENT	16.8	19.6	22.2	22.5	17.6	20.4	21.5	25.0	26.0	23.1
26	PERCENTAGE CHANGE	-1.18	16.67	13.27	1.35	-21.78	15.91	5.39	16.28	4.00	-11.15
27											
28	OTHER DURABLE GOODS	17.3	14.7	15.9	16.1	14.9	16.7	16.8	17.8	19.3	17.9
29	PERCENTAGE CHANGE	-9.42	-15.03	8.16	1.26	-7.45	12.08	0.60	5.95	8.43	-7.25

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 10: TENNESSEE NONDURABLE GOODS MANUFACTURING EMPLOYMENT
(Thousands of Jobs)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	TOTAL NONDURABLE GOODS	271.5	276.8	288.0	284.2	264.4	278.3	284.7	287.9	283.4	279.9
2	PERCENTAGE CHANGE	-0.51	1.95	4.05	-1.32	-6.97	5.26	2.30	1.12	-1.56	-1.24
3											
4	FOOD	[illegible].8	36.6	38.0	38.4	38.3	39.8	40.6	40.1	39.5	38.8
5	PERCENTAGE CHANGE	-0.83	2.23	3.83	1.05	-0.26	3.92	2.01	-1.23	-1.50	-1.77
6											
7	TEXTILES	34.2	32.4	33.2	31.0	27.1	29.3	28.5	29.0	27.2	27.0
8	PERCENTAGE CHANGE	-5.00	-5.26	2.47	-6.63	-12.58	8.12	-2.73	1.75	-6.21	-0.74
9											
10	APPAREL	67.2	71.8	76.0	73.9	66.1	72.0	72.3	71.2	68.3	68.7
11	PERCENTAGE CHANGE	1.51	6.85	5.85	-2.76	-10.55	8.93	0.42	-1.52	-4.07	0.59
12											
13	PAPER	14.4	16.6	17.5	17.4	15.2	15.7	16.6	17.4	18.2	18.0
14	PERCENTAGE CHANGE	1.41	15.28	5.42	-0.57	-12.64	3.29	5.73	4.82	4.60	-1.10
15											
16	PRINTING AND PUBLISHING	20.8	21.1	21.9	22.6	22.4	23.9	25.3	26.1	26.6	26.4
17	PERCENTAGE CHANGE	-0.95	1.44	3.79	3.20	-0.89	6.70	5.86	3.16	1.92	-0.75
18											
19	CHEMICALS	58.4	55.6	57.2	58.4	55.2	56.5	57.3	57.7	58.5	58.2
20	PERCENTAGE CHANGE	-3.63	-4.79	2.88	2.10	-5.48	2.36	1.42	0.70	1.39	-0.51
21											
22	RUBBER AND PLASTICS	14.4	15.5	17.7	18.4	16.7	16.7	20.6	22.8	23.4	20.6
23	PERCENTAGE CHANGE	0.70	7.64	14.19	3.95	-9.24	0.0	23.35	10.68	2.63	-11.97
24											
25	OTHER NONDURABLE GOODS	26.3	27.2	26.5	24.1	23.4	24.4	23.5	23.6	21.7	22.2
26	PERCENTAGE CHANGE	7.35	3.42	-2.57	-9.06	-2.90	4.27	-3.69	0.43	-8.05	2.30

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 11: TENNESSEE AVERAGE ANNUAL WAGE AND SALARY BY SECTOR
(Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	ALL SECTORS	6495.	6872.	7335.	7964.	8600.	9170.	9872.	10723.	11650.	12854.
2	PERCENTAGE CHANGE	6.56	5.79	6.75	8.57	7.98	6.63	7.66	8.62	8.65	10.33
3											
4	MANUFACTURING	6793.	7179.	7616.	8387.	9154.	9858.	10675.	11540.	12684.	13850.
5	PERCENTAGE CHANGE	5.98	5.69	6.09	10.13	9.14	7.69	8.29	8.10	9.92	9.19
6											
7	DURABLE GOODS	6992.	7164.	7659.	8524.	9246.	9962.	10857.	11662.	12836.	13986.
8	PERCENTAGE CHANGE	5.77	2.46	6.91	11.29	8.47	7.74	8.98	7.41	10.07	8.95
9											
10	NONDURABLE GOODS	6655.	7191.	7581.	8277.	9087.	9781.	10534.	11439.	12555.	13741.
11	PERCENTAGE CHANGE	6.16	8.05	5.43	9.18	9.78	7.64	7.70	8.60	9.75	9.45
12											
13	CONSTRUCTION	7366.	7408.	7714.	8531.	9697.	9922.	10563.	11252.	12271.	14338.
14	PERCENTAGE CHANGE	8.55	0.56	4.14	10.59	13.67	2.32	6.46	6.53	9.05	16.85
15											
16	MINING	7410.	8256.	8969.	9662.	11334.	11272.	12585.	13735.	16446.	19034.
17	PERCENTAGE CHANGE	10.06	11.42	8.64	7.73	17.31	-0.55	11.65	9.13	19.74	15.74
18											
19	TRADE	5687.	5932.	6295.	6788.	7269.	7757.	8185.	8752.	9502.	10461.
20	PERCENTAGE CHANGE	5.67	4.30	6.11	7.83	7.09	6.71	5.52	6.93	8.56	10.09
21											
22	SERVICES	5787.	6014.	6408.	6919.	7497.	8030.	8373.	9208.	10013.	11410.
23	PERCENTAGE CHANGE	4.08	3.94	6.55	7.97	8.36	7.11	4.27	9.98	8.74	13.95
24											
25	FINANCE, INSURANCE & REAL ESTATE	7040.	7560.	7992.	8530.	9089.	9820.	10673.	11568.	12543.	13909.
26	PERCENTAGE CHANGE	7.47	7.39	5.72	6.73	6.55	8.05	8.69	8.38	8.43	10.89
27											
28	TRANS., COMM. & PUBLIC UTILITIES	8702.	9561.	10461.	11265.	12085.	13335.	14255.	15678.	17005.	18669.
29	PERCENTAGE CHANGE	9.60	9.87	9.41	7.69	7.28	10.34	6.90	9.99	8.46	9.78
30											
31	GOVERNMENT	6908.	7525.	8139.	8647.	9158.	9600.	10713.	11766.	12578.	13700.
32	PERCENTAGE CHANGE	8.60	8.94	8.15	6.24	5.92	4.82	11.60	9.83	6.91	8.92
33											
34	FEDERAL, CIVILIAN	10705.	11132.	12046.	12480.	13496.	14570.	16113.	18449.	18351.	19658.
35	PERCENTAGE CHANGE	11.00	3.99	8.21	3.60	8.14	7.95	10.59	14.50	-0.53	7.12
36											
37	STATE & LOCAL	5943.	6538.	7092.	7580.	7966.	8238.	9176.	9864.	10785.	11862.
38	PERCENTAGE CHANGE	7.94	10.02	8.47	6.88	5.09	3.41	11.39	7.49	9.34	9.99
39											
40	AGRICULTURE	1995.	2171.	2465.	2949.	3081.	3249.	3628.	4079.	4494.	4818.
41	PERCENTAGE CHANGE	2.34	8.82	13.54	19.62	4.45	5.47	11.68	12.41	10.17	7.22

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 12: TENNESSEE DURABLE GOODS MANUFACTURING AVERAGE ANNUAL WAGE AND SALARY (Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	TOTAL DURABLE GOODS	6992.	7164.	7659.	8524.	9246.	9962.	10857.	11662.	12836.	13986.
2	PERCENTAGE CHANGE	5.77	2.46	6.91	11.29	8.47	7.74	8.98	7.41	10.07	8.95
3											
4	LUMBER AND WOOD PRODUCTS	5005.	4491.	4612.	5245.	6544.	7098.	7705.	8295.	9091.	9985.
5	PERCENTAGE CHANGE	0.25	-10.28	2.70	13.72	24.77	8.46	8.56	7.65	9.60	9.84
6											
7	FURNITURE AND FIXTURES	5640.	5736.	6205.	6851.	7087.	7799.	8386.	8741.	9590.	9932.
8	PERCENTAGE CHANGE	6.16	1.71	8.16	10.43	3.43	10.05	7.53	4.23	9.72	3.56
9											
10	STONE, CLAY AND GLASS	8237.	8276.	9465.	10093.	10340.	12124.	13479.	14823.	15379.	17467.
11	PERCENTAGE CHANGE	6.10	0.47	14.38	6.63	2.45	17.26	11.17	9.98	3.74	13.58
12											
13	PRIMARY METALS	8948.	9548.	9622.	10570.	10805.	12163.	13802.	15398.	16009.	17605.
14	PERCENTAGE CHANGE	7.97	6.71	0.77	9.85	2.23	12.57	13.47	11.56	3.97	10.00
15											
16	FABRICATED METAL PRODUCTS	7661.	7518.	7440.	8134.	10503.	10880.	11450.	12049.	13577.	14490.
17	PERCENTAGE CHANGE	9.96	-1.87	-1.04	9.33	29.14	3.59	5.23	5.23	12.68	6.65
18											
19	NONELECTRICAL MACHINERY	7760.	7001.	7998.	9654.	10680.	11187.	11822.	12986.	14631.	16058.
20	PERCENTAGE CHANGE	4.85	-9.79	14.25	20.70	10.63	4.75	5.68	9.85	12.67	9.75
21											
22	ELECTRICAL MACHINERY	6386.	6648.	7310.	7889.	8519.	9388.	10221.	10535.	12282.	13169.
23	PERCENTAGE CHANGE	7.48	4.10	9.96	7.91	7.99	10.20	8.88	3.07	16.58	7.22
24											
25	TRANSPORTATION EQUIPMENT	6985.	8080.	8351.	9038.	9493.	10216.	11486.	12738.	13761.	15296.
26	PERCENTAGE CHANGE	-2.46	15.68	3.35	8.23	5.03	7.62	12.43	10.90	8.03	11.15
27											
28	OTHER DURABLE GOODS	6758.	8857.	9410.	10133.	8381.	8702.	9604.	10392.	10624.	11703.
29	PERCENTAGE CHANGE	6.47	31.06	6.24	7.69	-17.29	3.83	10.38	8.20	2.23	10.16

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 13: TENNESSEE NONDURABLE GOODS MANUFACTURING
AVERAGE ANNUAL WAGE AND SALARY
(Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	TOTAL NONDURABLE GOODS	6655.	7191.	7581.	8277.	9087.	9781.	10534.	11439.	12555.	13741.
2	PERCENTAGE CHANGE	6.16	8.05	5.43	9.18	9.78	7.64	7.70	8.60	9.75	9.45
3											
4	FOOD	7209.	7691.	8160.	9248.	10075.	10919.	11524.	12438.	13536.	14844.
5	PERCENTAGE CHANGE	6.57	6.69	6.10	13.34	8.94	8.37	5.54	7.94	8.82	9.66
6											
7	TEXTILES	5469.	6286.	6617.	7142.	7167.	7713.	8287.	9106.	9813.	10816.
8	PERCENTAGE CHANGE	6.40	14.95	5.27	7.92	0.35	7.62	7.45	9.88	7.77	10.22
9											
10	APPAREL	4208.	4513.	4761.	5121.	5529.	6107.	6417.	6977.	7730.	8253.
11	PERCENTAGE CHANGE	4.82	7.25	5.50	7.58	7.95	10.46	5.07	8.73	10.79	6.77
12											
13	PAPER	8175.	7843.	8298.	9010.	10949.	12281.	13385.	14581.	15682.	17351.
14	PERCENTAGE CHANGE	5.79	-4.06	5.80	8.58	21.53	12.16	8.99	8.94	7.55	10.64
15											
16	PRINTING AND PUBLISHING	6378.	7111.	7488.	7932.	8066.	8630.	9097.	9934.	10730.	11855.
17	PERCENTAGE CHANGE	5.82	11.49	5.30	5.92	1.70	6.99	5.41	9.20	8.01	10.52
18											
19	CHEMICALS	9660.	10737.	11312.	12237.	13604.	14838.	15838.	17126.	18522.	20634.
20	PERCENTAGE CHANGE	7.22	11.15	5.36	8.17	11.18	9.07	6.74	8.13	8.15	11.41
21											
22	RUBBER AND PLASTICS	7994.	9068.	9580.	10030.	11423.	11879.	13625.	14270.	15461.	17131.
23	PERCENTAGE CHANGE	11.17	13.43	5.64	4.70	13.88	4.00	14.70	4.74	8.35	10.80
24											
25	OTHER NONDURABLE GOODS	5679.	6011.	6265.	6731.	7187.	7619.	8105.	8784.	9788.	10453.
26	PERCENTAGE CHANGE	6.41	5.85	4.23	7.43	6.78	6.01	6.37	8.38	11.43	6.80

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 14: TENNESSEE AVERAGE ANNUAL WAGE AND SALARY BY SECTOR
(1972 Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	ALL SECTORS	6731.	6872.	6940.	6848.	6869.	6968.	7077.	7192.	7178.	7185.
2	PERCENTAGE CHANGE	2.14	2.09	0.99	-1.33	0.31	1.44	1.56	1.63	-0.19	0.10
3											
4	MANUFACTURING	7039.	7179.	7205.	7212.	7312.	7491.	7653.	7740.	7815.	7742.
5	PERCENTAGE CHANGE	1.59	1.99	0.37	0.09	1.38	2.45	2.16	1.14	0.98	-0.94
6											
7	DURABLE GOODS	7245.	7164.	7246.	7329.	7385.	7570.	7783.	7821.	7909.	7818.
8	PERCENTAGE CHANGE	1.39	-1.12	1.15	1.15	0.76	2.50	2.81	0.50	1.12	-1.16
9											
10	NONDURABLE GOODS	6896.	7191.	7173.	7117.	7258.	7432.	7551.	7672.	7736.	7681.
11	PERCENTAGE CHANGE	1.76	4.27	-0.25	-0.77	1.98	2.40	1.60	1.61	0.82	-0.70
12											
13	CONSTRUCTION	7634.	7408.	7298.	7335.	7745.	7539.	7572.	7547.	7561.	8015.
14	PERCENTAGE CHANGE	4.05	-2.96	-1.48	0.51	5.59	-2.66	0.43	-0.33	0.18	6.00
15											
16	MINING	7678.	8256.	8485.	8308.	9053.	8565.	9022.	9212.	10133.	10640.
17	PERCENTAGE CHANGE	5.50	7.52	2.78	-2.09	8.97	-5.39	5.33	2.11	10.00	5.00
18											
19	TRADE	5894.	5932.	5955.	5836.	5806.	5894.	5868.	5870.	5855.	5847.
20	PERCENTAGE CHANGE	1.29	0.63	0.39	-1.99	-0.52	1.52	-0.46	0.04	-0.27	-0.12
21											
22	SERVICES	5996.	6014.	6063.	5949.	5988.	6102.	6002.	6176.	6170.	6378.
23	PERCENTAGE CHANGE	-0.23	0.30	0.80	-1.87	0.66	1.90	-1.64	2.90	-0.10	3.37
24											
25	FINANCE, INSURANCE & REAL ESTATE	7295.	7560.	7561.	7334.	7259.	7462.	7651.	7758.	7728.	7775.
26	PERCENTAGE CHANGE	3.01	3.63	0.02	-3.00	-1.02	2.79	2.53	1.40	-0.39	0.60
27											
28	TRANS., COMM. & PUBLIC UTILITIES	9018.	9561.	9897.	9686.	9653.	10133.	10218.	10515.	10477.	10435.
29	PERCENTAGE CHANGE	5.06	6.03	3.51	-2.13	-0.35	4.97	0.85	2.90	-0.36	-0.40
30											
31	GOVERNMENT	7159.	7525.	7700.	7435.	7315.	7294.	7679.	7891.	7750.	7658.
32	PERCENTAGE CHANGE	4.09	5.12	2.32	-3.44	-1.61	-0.28	5.28	2.76	-1.79	-1.19
33											
34	FEDERAL, CIVILIAN	11093.	11132.	11396.	10731.	10780.	11071.	11551.	12374.	11307.	10989.
35	PERCENTAGE CHANGE	6.40	0.35	2.38	-5.84	0.45	2.70	4.33	7.13	-8.62	-2.82
36											
37	STATE & LOCAL	6158.	6538.	6710.	6518.	6363.	6260.	6578.	6615.	6645.	6630.
38	PERCENTAGE CHANGE	3.47	6.17	2.62	-2.86	-2.38	-1.62	5.08	0.57	0.45	-0.22
39											
40	AGRICULTURE	2068.	2171.	2333.	2536.	2460.	2469.	2601.	2736.	2769.	2693.
41	PERCENTAGE CHANGE	-1.91	5.01	7.42	8.72	-2.97	0.34	5.35	5.17	1.21	-2.73

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 15: TENNESSEE DURABLE GOODS MANUFACTURING
AVERAGE ANNUAL WAGE AND SALARY
(1972 Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	TOTAL DURABLE GOODS	7245.	7164.	7246.	7329.	7385.	7570.	7783.	7821.	7909.	7818.
2	PERCENTAGE CHANGE	1.39	-1.12	1.15	1.15	0.76	2.50	2.81	0.50	1.12	-1.16
3											
4	LUMBER AND WOOD PRODUCTS	5187.	4491.	4363.	4510.	5227.	5394.	5524.	5563.	5601.	5581.
5	PERCENTAGE CHANGE	-3.91	-13.42	-2.84	3.36	15.90	3.19	2.41	0.72	0.68	-0.36
6											
7	FURNITURE AND FIXTURES	5844.	5736.	5870.	5891.	5660.	5926.	6011.	5862.	5909.	5552.
8	PERCENTAGE CHANGE	1.76	-1.85	2.33	0.36	-3.92	4.70	1.44	-2.48	0.79	-6.05
9											
10	STONE, CLAY AND GLASS	8536.	8275.	8955.	8678.	8259.	9213.	9662.	9942.	9475.	9763.
11	PERCENTAGE CHANGE	1.70	-3.05	8.21	-3.09	-4.84	11.55	4.88	2.90	-4.69	3.04
12											
13	PRIMARY METALS	9273.	9548.	9103.	9088.	8630.	9242.	9894.	10327.	9864.	9843.
14	PERCENTAGE CHANGE	3.49	2.97	-4.67	-0.16	-5.04	7.09	7.05	4.38	-4.49	-0.21
15											
16	FABRICATED METAL PRODUCTS	7939.	7518.	7038.	6994.	8389.	8268.	8208.	8081.	8365.	8094.
17	PERCENTAGE CHANGE	5.40	-5.30	-6.38	-0.64	19.96	-1.45	-0.73	-1.54	3.52	-3.25
18											
19	NONELECTRICAL MACHINERY	8042.	7000.	7567.	8301.	8530.	8501.	8474.	8710.	9015.	8976.
20	PERCENTAGE CHANGE	0.50	-12.95	8.09	9.70	2.76	-0.35	-0.31	2.78	3.50	-0.44
21											
22	ELECTRICAL MACHINERY	6618.	6648.	6916.	6783.	6804.	7134.	7327.	7066.	7567.	7361.
23	PERCENTAGE CHANGE	3.0	0.46	4.03	-1.92	0.31	4.84	2.71	-3.57	7.10	-2.73
24											
25	TRANSPORTATION EQUIPMENT	7238.	8080.	7900.	7771.	7582.	7763.	8234.	8543.	8479.	8550.
26	PERCENTAGE CHANGE	-6.50	11.63	-2.22	-1.63	-2.43	2.38	6.07	3.76	-0.76	0.84
27											
28	OTHER DURABLE GOODS	7003.	8857.	8902.	8713.	6694.	6612.	6885.	6970.	6546.	6542.
29	PERCENTAGE CHANGE	2.05	26.48	0.51	-2.13	-23.17	-1.22	4.12	1.24	-6.08	-0.06
30											

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 16: TENNESSEE NONDURABLE GOODS MANUFACTURING
AVERAGE ANNUAL WAGE AND SALARY
(1972 Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	TOTAL NONDURABLE GOODS	6896.	7191.	7173.	7117.	7258.	7432.	7551.	7672.	7736.	7681.
2	PERCENTAGE CHANGE	1.76	4.27	-0.25	-0.77	1.98	2.40	1.60	1.61	0.82	-0.70
3											
4	FOOD	7470.	7691.	7720.	7952.	8047.	8297.	8261.	8342.	8340.	8297.
5	PERCENTAGE CHANGE	2.15	2.95	0.38	3.01	1.19	3.10	-0.44	0.99	-0.03	-0.51
6											
7	TEXTILES	5567.	6286.	6261.	6141.	5724.	5861.	5941.	6107.	6046.	6046.
8	PERCENTAGE CHANGE	1.99	10.93	-0.40	-1.92	-6.78	2.38	1.37	2.80	-1.00	-0.01
9											
10	APPAREL	4360.	4513.	4504.	4404.	4416.	4641.	4600.	4679.	4763.	4613.
11	PERCENTAGE CHANGE	0.48	3.49	-0.19	-2.23	0.28	5.09	-0.88	1.73	1.78	-3.14
12											
13	PAPER	8471.	7843.	7850.	7747.	8745.	9332.	9595.	9780.	9663.	9699.
14	PERCENTAGE CHANGE	1.40	-7.42	0.09	-1.32	12.89	6.71	2.82	1.92	-1.20	0.38
15											
16	PRINTING AND PUBLISHING	6609.	7111.	7084.	6820.	6443.	6558.	6521.	6663.	6611.	6629.
17	PERCENTAGE CHANGE	1.44	7.59	-0.38	-3.73	-5.53	1.79	-0.56	2.17	-0.78	0.27
18											
19	CHEMICALS	10011.	10737.	10702.	10521.	10866.	11275.	11353.	11486.	11412.	11534.
20	PERCENTAGE CHANGE	2.77	7.26	-0.32	-1.69	3.28	3.76	0.69	1.17	-0.65	1.07
21											
22	RUBBER AND PLASTICS	8284.	9068.	9063.	8624.	9123.	9027.	9767.	9571.	9526.	9576.
23	PERCENTAGE CHANGE	6.56	9.46	-0.06	-4.84	5.79	-1.06	8.20	-2.01	-0.47	0.52
24											
25	OTHER NONDURABLE GOODS	5885.	6011.	5928.	5787.	5740.	5790.	5810.	5891.	6031.	5843.
26	PERCENTAGE CHANGE	2.00	2.15	-1.39	-2.36	-0.81	0.86	0.35	1.40	2.37	-3.11

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 17: TENNESSEE PERSONAL INCOME BY COMPONENTS

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	TOTAL PERSONAL INCOME (MIL $)	13358.	14981.	17011.	18792.	20306.	22676.	25101.	28502.	32114.	35525.
2	PERCENTAGE CHANGE	9.55	12.15	13.55	10.47	8.06	11.67	10.70	13.55	12.68	10.62
3											
4	WAGES AND SALARIES	9140.	10318.	11579.	12790.	13312.	14858.	16713.	19090.	21211.	22865.
5	PERCENTAGE CHANGE	8.63	12.89	12.22	10.46	4.09	11.61	12.48	14.22	11.11	7.80
6											
7	OTHER LABOR INCOME	618.	748.	855.	982.	1107.	1318.	1549.	1808.	2058.	2356.
8	PERCENTAGE CHANGE	14.96	21.08	14.27	14.87	12.77	19.04	17.55	16.75	13.80	14.47
9											
10	PROPRIETORS' INCOME	1237.	1392.	1667.	1488.	1476.	1749.	1686.	1910.	2109.	2122.
11	PERCENTAGE CHANGE	7.57	12.52	19.76	-10.71	-0.81	18.51	-3.61	13.26	10.43	0.63
12											
13	PROPERTY INCOME	1514.	1631.	1879.	2223.	2426.	2598.	2957.	3429.	4125.	4898.
14	PERCENTAGE CHANGE	10.43	7.74	15.19	18.30	9.17	7.09	13.78	15.98	20.29	18.74
15											
16	TRANSFER PAYMENTS	1523.	1679.	1958.	2377.	3092.	3367.	3590.	3885.	4461.	5297.
17	PERCENTAGE CHANGE	16.09	10.26	16.57	21.45	30.05	8.91	6.63	8.21	14.81	18.75
18											
19	LESS: PERS. CONT. FOR SOCIAL INS.	516.	598.	733.	854.	885.	996.	1132.	1313.	1511.	1653.
20	PERCENTAGE CHANGE	15.78	15.91	22.71	16.41	3.60	12.64	13.62	15.96	15.09	9.42
21											
22	RESIDENCE ADJUSTMENT	-158.	-189.	-192.	-213.	-223.	-219.	-262.	-308.	-338.	-360.
23	PERCENTAGE CHANGE	9.16	20.01	1.42	11.28	4.44	-1.76	19.62	17.39	10.04	6.26
24											
25	PER CAPITA PERSONAL INCOME ($)	3331.	3664.	4111.	4473.	4766.	5238.	5702.	6388.	7084.	7720.
26	PERCENTAGE CHANGE	7.56	10.00	12.20	8.81	6.55	9.90	8.86	12.03	10.90	8.98
27											
28	TOTAL PERSONAL INCOME (MIL 72 $)	13842.4	14980.6	16093.8	16158.5	16219.0	17230.6	17993.6	19115.8	19787.0	19857.3
29	PERCENTAGE CHANGE	5.01	8.22	7.43	0.40	0.37	6.24	4.43	6.24	3.51	0.36
30											
31	PER CAPITA PERSONAL INCOME (72 $)	3452.	3665.	3889.	3845.	3806.	3980.	4088.	4284.	4365.	4315.
32	PERCENTAGE CHANGE	3.10	6.16	6.13	-1.13	-1.02	4.57	2.70	4.81	1.89	-1.15
33											
34	TN INDIVIDUAL IRS COLLECTIONS (MIL $)	1334.2	1470.8	1725.3	1978.5	1947.8	2226.1	2632.7	2984.1	3484.1	3905.2
35	PERCENTAGE CHANGE	8.31	10.23	17.31	14.68	-1.55	14.29	18.27	13.34	16.76	12.09
36											
37	DISPOSABLE PERSONAL INCOME (MIL $)	12024.	13510.	15286.	16814.	18358.	20449.	22468.	25518.	28630.	31620.
38	PERCENTAGE CHANGE	9.69	12.36	13.15	10.00	9.19	11.39	9.87	13.57	12.20	10.44
39											
40	PER CAPITA DISPOSABLE INCOME ($)	2998.	3305.	3694.	4001.	4308.	4724.	5104.	5719.	6316.	6871.
41	PERCENTAGE CHANGE	7.69	10.22	11.78	8.32	7.67	9.64	8.05	12.04	10.44	8.79
42											
43	DISPOSABLE INCOME (MIL 72 $)	12459.8	13509.9	14461.5	14457.3	14663.3	15539.1	16106.4	17114.4	17640.3	17674.5
44	PERCENTAGE CHANGE	5.14	8.43	7.04	-0.03	1.42	5.97	3.65	6.26	3.07	0.19
45											
46	PER CAPITA DISPOSABLE INCOME (72 $)	3107.	3305.	3495.	3441.	3441.	3590.	3659.	3836.	3892.	3841.
47	PERCENTAGE CHANGE	3.23	6.36	5.75	-1.55	0.02	4.31	1.93	4.83	1.46	-1.30

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 18: TENNESSEE RETAIL SALES

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	TOTAL (MIL $)	7012.	7798.	9640.	10797.	11436.	12748.	14255.	15712.	16375.	17516.
2	PERCENTAGE CHANGE	12.78	11.22	23.61	12.01	5.92	11.47	11.82	10.22	4.22	6.97
3											
4	AUTOMOTIVE	1470.	1724.	2152.	2133.	2268.	2707.	3194.	3629.	3754.	3537.
5	PERCENTAGE CHANGE	26.59	17.25	24.84	-0.87	6.34	19.34	17.98	13.61	3.44	-5.77
6											
7	NONAUTOMOTIVE	5542.	6075.	7488.	8664.	9168.	10041.	11061.	12084.	12622.	13979.
8	PERCENTAGE CHANGE	9.61	9.62	23.26	15.71	5.81	9.52	10.16	9.24	4.45	10.76
9											
10											
11	TOTAL (MIL 72 $)	7266.	7796.	9120.	9234.	9134.	9687.	10219.	10538.	10090.	9791.
12	PERCENTAGE CHANGE	8.10	7.33	16.94	1.80	-1.61	6.05	5.49	3.12	-4.26	-2.96
13											
14	AUTOMOTIVE	1523.	1724.	2036.	1834.	1812.	2057.	2290.	2434.	2313.	1977.
15	PERCENTAGE CHANGE	21.34	13.15	18.11	-9.90	-1.22	13.54	11.30	6.30	-4.97	-14.52
16											
17	NONAUTOMOTIVE	5743.	6075.	7084.	7450.	7323.	7630.	7929.	8104.	7777.	7814.
18	PERCENTAGE CHANGE	5.06	5.79	16.61	5.16	-1.71	4.20	3.92	2.21	-4.04	0.48
19											
20											
21	MOTOR VEHICLE REGISTRATIONS	2136.	2294.	2467.	2568.	2726.	2805.	2996.	2911.	2995.	3021.
22	PERCENTAGE CHANGE	4.18	7.40	7.55	4.12	6.12	2.91	6.82	-2.83	2.89	0.86

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 19: TENNESSEE ENERGY CONSUMPTION--SELECTED CATEGORIES

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	ELECTRICITY (MIL. KWH)	37595.	40406.	43192.	42398.	42686.	45463.	50123.	50854.	50043.	51202.
2	PERCENTAGE CHANGE	3.65	7.47	6.90	-1.84	0.68	6.50	10.25	1.46	-1.59	2.32
3											
4	RESIDENTIAL	19048.	20016.	21545.	21258.	22038.	22876.	25466.	25839.	24469.	25736.
5	PERCENTAGE CHANGE	0.93	5.09	7.64	-1.34	3.67	3.80	11.32	1.46	-5.30	5.18
6											
7	COMMERCIAL	3223.	3411.	3588.	3464.	3516.	3647.	4210.	4247.	4140.	4396.
8	PERCENTAGE CHANGE	2.28	5.83	5.18	-3.45	1.49	3.72	15.44	0.87	-2.50	6.19
9											
10	INDUSTRIAL	15324.	16978.	18058.	17676.	17133.	18941.	20447.	20768.	21433.	21069.
11	PERCENTAGE CHANGE	7.55	10.79	6.36	-2.12	-3.07	10.55	7.95	1.57	3.20	-1.70
12											
13	TOTAL GAS (MIL. THERMS)	2443.	2446.	2461.	2382.	2004.	1988.	1858.	1852.	1793.	1788.
14	PERCENTAGE CHANGE	-0.80	0.12	0.61	-3.21	-15.87	-0.80	-6.54	-0.32	-3.19	-0.28
15											
16	RESIDENTIAL	462.	455.	468.	449.	451.	470.	474.	489.	492.	471.
17	PERCENTAGE CHANGE	-2.22	-1.52	2.86	-4.06	0.45	4.21	0.85	3.16	0.61	-4.19
18											
19	COMMERCIAL	377.	383.	389.	362.	364.	360.	369.	351.	358.	345.
20	PERCENTAGE CHANGE	2.59	1.59	1.57	-6.94	0.55	-1.10	2.50	-4.88	1.99	-3.54
21											
22	INDUSTRIAL	1604.	1608.	1604.	1571.	1189.	1158.	1015.	1012.	943.	971.
23	PERCENTAGE CHANGE	-1.16	0.25	-0.25	-2.06	-24.32	-2.61	-12.35	-0.30	-6.82	3.00
24											
25	COAL (THOUS. TONS)	14666.	14349.	17440.	19894.	18848.	22361.	21696.	20618.	19859.	20229.
26	PERCENTAGE CHANGE	-3.19	-2.16	21.54	14.07	-5.26	18.64	-2.97	-4.97	-3.68	1.86
27											
28	GASOLINE (MIL. GAL.)	1917.	2094.	2264.	2212.	2288.	2409.	2473.	2588.	2499.	2389.
29	PERCENTAGE CHANGE	7.19	9.23	8.12	-2.32	3.42	5.32	2.64	4.66	-3.45	-4.40
30											
31	FUEL OIL (THOUS. BARRELS)	11974.	14742.	15960.	16698.	18391.	24554.	27465.	29354.	28622.	25033.
32	PERCENTAGE CHANGE	3.75	23.12	8.26	4.62	10.14	33.51	11.86	6.88	-2.49	-12.54

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 20: TENNESSEE ENERGY CONSUMPTION
(Trillions of BTU's)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	ELECTRICITY	176.4	189.3	211.8	211.2	233.2	248.3	256.5	247.1	247.5	252.1
2	PERCENTAGE CHANGE	-0.65	7.34	11.90	-0.32	10.43	6.48	3.32	-3.68	0.17	1.86
3											
4	RESIDENTIAL	62.1	65.2	69.6	67.6	78.6	80.6	90.4	90.6	85.8	90.2
5	PERCENTAGE CHANGE	1.40	4.99	6.78	-2.92	16.33	2.55	12.12	0.24	-5.30	5.18
6											
7	COMMERCIAL	23.2	25.6	27.5	27.2	25.3	26.8	35.8	38.0	37.0	39.3
8	PERCENTAGE CHANGE	7.99	10.16	7.36	-1.00	-7.16	6.22	33.30	6.10	-2.50	6.18
9											
10	INDUSTRIAL	91.0	98.5	114.7	116.4	129.3	140.9	130.4	118.5	124.7	122.6
11	PERCENTAGE CHANGE	-3.94	8.21	16.47	1.42	11.13	8.92	-7.44	-9.08	5.20	-1.70
12											
13	NATURAL GAS	273.2	284.8	299.5	266.4	221.7	216.4	206.0	187.0	180.7	179.1
14	PERCENTAGE CHANGE	3.46	4.22	5.19	-11.06	-16.79	-2.40	-4.80	-9.22	-3.34	-0.92
15											
16	RESIDENTIAL	48.4	55.2	46.9	44.6	44.9	44.6	44.4	40.4	40.7	39.0
17	PERCENTAGE CHANGE	0.90	13.97	-15.04	-4.86	0.60	-0.71	-0.50	-8.82	0.61	-4.19
18											
19	COMMERCIAL	45.4	46.9	46.9	45.7	43.3	39.0	35.8	31.4	32.0	30.9
20	PERCENTAGE CHANGE	3.14	3.32	-0.10	-2.50	-5.22	-10.08	-8.15	-12.24	1.99	-3.54
21											
22	INDUSTRIAL	133.2	139.9	164.4	151.5	113.9	117.2	111.7	100.5	93.6	96.5
23	PERCENTAGE CHANGE	4.94	5.03	17.51	-7.87	-24.82	2.94	-4.72	-10.04	-6.82	3.01
24											
25	OTHER	46.1	42.7	41.3	24.6	19.5	15.6	14.1	14.6	14.4	12.7
26	PERCENTAGE CHANGE	2.33	-7.47	-3.21	-40.53	-20.45	-20.35	-9.31	3.77	-1.88	-11.39
27											
28	COAL	375.4	449.4	539.7	476.6	470.8	560.2	557.6	614.6	591.9	597.5
29	PERCENTAGE CHANGE	-8.02	19.71	20.10	-11.69	-1.23	18.99	-0.47	10.22	-3.68	0.93
30											
31	FUEL OIL	69.9	86.1	93.3	97.7	107.5	144.5	161.6	172.2	167.9	146.8
32	PERCENTAGE CHANGE	3.58	23.16	8.31	4.72	10.03	34.42	11.84	6.56	-2.50	-12.54
33											
34	GASOLINE	233.8	253.9	275.2	271.2	282.3	295.5	302.9	315.5	304.6	291.2
35	PERCENTAGE CHANGE	6.30	8.59	8.40	-1.45	4.07	4.67	2.50	4.16	-3.45	-4.40
36											
37	OTHER	412.8	389.9	409.4	469.2	528.2	494.4	553.3	514.1	506.4	501.4
38	PERCENTAGE CHANGE	4.68	-5.57	5.01	14.61	12.58	-6.41	11.91	-7.09	-1.48	-1.00
39											
40											
41	TOTAL ENERGY CONSUMPTION	1541.6	1653.3	1829.0	1792.3	1843.6	1959.1	2037.8	2050.3	1999.0	1968.0
42	PERCENTAGE CHANGE	0.65	7.25	10.62	-2.00	2.86	6.27	4.01	0.61	-2.50	-1.55
43											
44	GROSS ENERGY CONSUMPTION	1365.2	1464.0	1617.2	1581.2	1610.4	1710.8	1781.2	1803.2	1751.5	1715.9
45	PERCENTAGE CHANGE	0.82	7.24	10.46	-2.23	1.85	6.24	4.12	1.23	-2.87	-2.04
46											
47	NET ENERGY CONSUMPTION	1113.2	1138.7	1231.9	1261.4	1295.5	1345.9	1423.6	1440.6	1408.4	1366.3
48	PERCENTAGE CHANGE	1.53	2.29	8.18	2.40	2.70	3.89	5.78	1.20	-2.24	-2.99

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 21: TENNESSEE ENERGY PRICES

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	ELECTRICITY (CENTS/KILOWATT-HOUR)	1.17	1.16	1.23	1.46	1.99	2.19	2.29	2.75	3.15	3.53
2	PERCENTAGE CHANGE	15.76	-0.72	6.10	18.23	36.38	10.21	4.36	20.19	14.59	11.97
3											
4	RESIDENTIAL	1.26	1.26	1.33	1.56	2.07	2.30	2.35	2.74	3.11	3.45
5	PERCENTAGE CHANGE	16.67	0.0	5.56	17.29	32.69	11.11	2.17	16.60	13.50	10.90
6											
7	COMMERCIAL	1.65	1.65	1.73	1.95	2.50	2.72	2.87	3.44	3.91	4.31
8	PERCENTAGE CHANGE	12.24	0.0	4.85	12.72	28.21	8.80	5.51	19.86	13.66	10.23
9											
10	INDUSTRIAL	0.96	0.95	1.02	1.24	1.78	1.96	2.09	2.62	3.05	3.46
11	PERCENTAGE CHANGE	17.07	-1.04	7.37	21.57	43.55	10.11	6.63	25.36	16.41	13.44
12											
13											
14	TOTAL GAS (CENTS/THERM)	5.8	6.4	6.7	7.8	10.0	12.3	16.0	18.4	22.2	27.2
15	PERCENTAGE CHANGE	11.16	10.25	5.42	15.81	28.15	23.54	30.25	14.95	20.64	22.41
16											
17	RESIDENTIAL	9.5	10.5	10.9	11.8	13.3	14.9	17.8	19.8	23.4	28.3
18	PERCENTAGE CHANGE	7.05	10.35	3.51	8.44	12.55	12.03	19.46	11.24	18.18	20.94
19											
20	COMMERCIAL	7.7	8.5	9.1	10.2	11.9	14.4	18.5	20.9	24.9	30.8
21	PERCENTAGE CHANGE	6.65	10.36	7.25	11.99	16.36	21.01	28.47	12.97	19.14	23.69
22											
23	INDUSTRIAL	4.2	4.7	4.9	6.1	8.1	10.6	14.3	16.9	20.6	25.4
24	PERCENTAGE CHANGE	15.97	10.49	4.83	23.41	33.86	30.86	34.91	18.18	21.89	23.30
25											
26	COAL PRICE ($/TON)	6.68	7.48	8.29	9.50	19.08	20.52	22.80	26.56	31.92	33.01
27	PERCENTAGE CHANGE	31.76	11.98	10.83	14.60	100.84	7.55	11.11	16.49	20.18	3.41

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 22: TENNESSEE COMMERCIAL BANKS AND SAVINGS AND LOANS
ASSETS AND LIABILITIES
(Millions of Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	COMMERCIAL BANKS										
2	ASSETS	10095.	12103.	13928.	14666.	15434.	16422.	18127.	20042.	22056.	23804.
3	PERCENTAGE CHANGE	16.67	19.88	15.09	5.29	5.24	6.40	10.38	10.56	10.05	7.92
4											
5	TOTAL LOANS	5024.	6196.	7601.	8088.	8197.	9074.	10416.	11950.	12695.	12973.
6	PERCENTAGE CHANGE	15.16	23.33	22.69	6.40	1.36	10.69	14.79	14.72	6.24	2.19
7											
8	SECURITIES AND OTHER INVESTMENTS	5072.	5907.	6327.	6578.	7237.	7348.	7711.	8092.	9361.	10831.
9	PERCENTAGE CHANGE	18.20	16.47	7.11	3.97	10.01	1.53	4.94	4.94	15.68	15.70
10											
11	LIABILITIES										
12	TOTAL DEPOSITS	8682.	10329.	11691.	12287.	13098.	14249.	15840.	17141.	18404.	19798.
13	PERCENTAGE CHANGE	16.66	18.97	13.19	5.11	6.59	8.79	11.16	8.22	7.90	7.05
14											
15	DEMAND DEPOSITS	4066.	4594.	4994.	4849.	4974.	5146.	5626.	6030.	6262.	6057.
16	PERCENTAGE CHANGE	8.99	12.99	8.72	-2.90	2.56	3.46	9.34	7.17	3.85	-3.27
17											
18	TIME DEPOSITS	4616.	5735.	6696.	7438.	8124.	9103.	10213.	11111.	12232.	13741.
19	PERCENTAGE CHANGE	24.36	24.23	16.77	11.08	9.22	12.05	12.19	8.79	10.09	12.33
20											
21	AVERAGE YIELDS (PERCENT)										
22	LOANS	7.61	7.49	8.69	9.81	8.83	9.04	9.31	10.04	11.51	13.10
23	PERCENTAGE CHANGE	-6.05	-1.58	16.02	12.89	-9.99	2.38	2.99	7.81	14.71	13.76
24											
25	SECURITIES	5.02	4.95	5.25	5.67	5.98	6.31	6.26	7.78	9.03	10.70
26	PERCENTAGE CHANGE	4.80	-1.39	6.06	8.00	5.47	5.52	-0.79	24.28	16.04	18.52
27											
28											
29	SAVINGS AND LOANS										
30	ASSETS	2358.	2817.	3151.	3456.	4024.	4651.	5511.	6392.	6904.	7425.
31	PERCENTAGE CHANGE	18.14	19.48	11.87	9.67	16.42	15.59	18.48	15.99	8.01	7.54
32											
33	TOTAL LOANS	2007.	2432.	2779.	3036.	3432.	3975.	4754.	5551.	5997.	6242.
34	PERCENTAGE CHANGE	18.40	21.20	14.24	9.25	13.06	15.82	19.59	16.77	8.04	4.08
35											
36	SECURITIES AND OTHER INVESTMENTS	351.	385.	373.	421.	592.	676.	757.	841.	907.	1183.
37	PERCENTAGE CHANGE	16.63	9.65	-3.09	12.82	40.62	14.27	11.98	11.14	7.83	30.38
38											
39	LIABILITIES										
40	TIME DEPOSITS	2061.	2436.	2692.	2935.	3435.	4006.	4684.	5291.	5723.	6263.
41	PERCENTAGE CHANGE	19.32	18.20	10.54	8.99	17.05	16.64	16.92	12.95	8.15	9.45

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.

TENNESSEE ECONOMETRIC MODEL

HISTORICAL DATA AS OF JANUARY, 1982

TABLE 23: TENNESSEE AGRICULTURAL OUTPUT
(Millions of Dollars)

#	DESCRIPTION	HISTORICAL DATA 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	CASH RECEIPTS	741.3	831.4	1143.5	1014.6	1116.9	1281.5	1391.9	1597.3	1796.5	1737.1
2	PERCENTAGE CHANGE	5.52	12.15	37.54	-11.27	10.08	14.74	8.62	14.75	12.48	-3.31
3											
4	CROPS	319.5	316.0	503.1	555.8	505.8	601.1	707.1	724.3	842.2	952.5
5	PERCENTAGE CHANGE	19.22	-1.11	59.21	10.47	-9.00	18.86	17.63	2.42	16.29	1.21
6											
7	MEAT ANIMALS	249.9	331.0	412.9	226.6	366.9	405.5	387.6	568.3	607.5	489.0
8	PERCENTAGE CHANGE	-4.26	32.47	24.75	-45.13	61.93	10.51	-4.41	46.61	6.91	-19.51
9											
10	DAIRY PRODUCTS	115.5	123.0	133.3	156.1	168.8	193.8	206.3	214.7	244.1	287.3
11	PERCENTAGE CHANGE	1.89	6.54	8.38	17.09	8.13	14.81	6.46	4.07	13.66	17.70
12											
13	POULTRY AND EGGS	56.4	61.4	94.1	76.2	75.4	81.1	90.9	90.0	102.7	108.4
14	PERCENTAGE CHANGE	-6.24	8.72	53.39	-19.09	-1.00	7.52	12.09	-0.94	14.12	5.53
15											
16	EXPENSES	269.9	294.5	416.4	371.8	488.1	506.7	717.6	721.5	774.6	943.4
17	PERCENTAGE CHANGE	-0.27	9.10	41.40	-10.71	31.28	3.81	41.62	0.54	7.36	21.79
18											
19	GROSS OUTPUT	471.4	536.9	727.1	642.8	628.8	774.8	674.3	875.8	1021.9	793.7
20	PERCENTAGE CHANGE	9.15	13.89	35.43	-11.59	-2.18	23.22	-12.97	29.88	16.68	-22.33
21											
22	GROSS OUTPUT (MIL 72 $)	555.5	536.9	462.1	433.3	431.9	541.9	467.5	497.6	509.5	411.4
23	PERCENTAGE CHANGE	6.72	-3.35	-13.94	-6.22	-0.32	25.46	-13.73	6.45	2.38	-19.25

SOURCE: TENNESSEE ECONOMETRIC MODEL, CENTER FOR BUSINESS AND ECONOMIC RESEARCH, UT-KNOXVILLE.